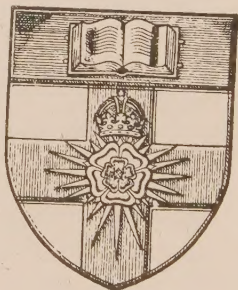


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THE SURVEYORS' INSTITUTION

(Incorporated by Royal Charter),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

TRANSACTIONS.

VOL. XXV.

SESSION 1892-93.



LONDON:

PUBLISHED AT THE INSTITUTION,

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

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ERRATA.

Page 189, third line from bottom of page, for 1865 read 1815.

Page 235, number of Paper reversed, for Paper 318, No. 192,
read Paper 192, No. 318.

The Surveyors' Institution

(INCORPORATED BY ROYAL CHARTER),

12, GREAT GEORGE STREET,

WESTMINSTER, S.W.

OFFICERS, 1892-93.

COUNCIL.

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DANIEL WATNEY

ALEXANDER MILNE DUNLOP

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ELIAS PITTS SQUAREY

ROBERT COLLIER DRIVER

Honorary Secretary.

JOHN WORNHAM PENFOLD

Secretary.

JULIAN C. ROGERS

The Surveyors' Institution

(INCORPORATED BY ROYAL CHARTER)

Is established—

1. To secure the advancement and facilitate the acquisition of that knowledge which constitutes the profession of a Surveyor, viz.—the art of determining the value of all descriptions of landed and house property, and of the various interests therein; the practice of managing and developing estates; and the science of ad-measuring and delineating the physical features of the earth, and of measuring and estimating artificers' work.
2. To promote the general interests of the profession, and to maintain and extend its usefulness for the public advantage.

THE INSTITUTION consists of four classes, viz.—FELLOWS, PROFESSIONAL ASSOCIATES, ASSOCIATES, and HONORARY MEMBERS, with a class of STUDENTS attached.

A FELLOW must be more than twenty-five years of age, and must have acquired a practical knowledge of surveying in one or other of its branches as above defined; and must have passed the Examination declared in the Rules of Examination to appertain to the class of Fellows. Fellows have the right, conferred by the Charter, to use the letters F.S.I. after their names.

A PROFESSIONAL ASSOCIATE must be more than twenty-one years of age, a Surveyor by profession, in practice on his own account or employed as an Assistant in a Surveyor's Office, and qualified for the class by having passed the Students' Proficiency Examination, or the Professional Associates' Qualifying Examination. Professional Associates have the right, conferred by the Charter, to use the letters P.A.S.I. after their names.

AN ASSOCIATE must be more than twenty-one years of age, not a Surveyor by profession, but his pursuits must be such as to qualify him to concur with Surveyors in the advancement of professional knowledge.

AN HONORARY MEMBER must be a person who, either by reason of his position or experience, or his eminence in science, may be enabled to render assistance in promoting the objects of the Institution, but who is not engaged in practice as a Surveyor in Great Britain or Ireland. He has the privilege of being present and taking part at all Ordinary General Meetings, and of access to the Library, but no right of voting, discussing, or otherwise interfering in the affairs of the Institution; nor is he called on to contribute to its funds.

STUDENTS (who must not be under eighteen years of age) qualify as such by passing the Students' Preliminary Examination. Candidates for Studentship who can produce a Certificate of having passed the Matriculation Examination of the University of Oxford, Cambridge, London, or any other University in the United Kingdom, or who have passed, with Honours, the Senior Local Examination of the University of Oxford or Cambridge, or who have obtained a Higher Certificate at the Examinations of the Oxford and Cambridge Schools' Examinations Board, are exempted from this Examination, and may be admitted by the Council on the recommendation (according to a form) of four Fellows and two Associates, or of the Fellow or Associate to whom they are or have been articulated; but it is obligatory on all Students to undergo the Proficiency Examination at the close of their Student course, at the time and under the conditions applying in each particular case under the Rules of Examination.

The Council may accord to Students such privileges, subject to such terms, regulations, and restrictions, as they shall from time to time prescribe.

Any person desirous of being admitted into the Institution (excepting to the class of Students) must be proposed and recommended according to a form, in which the full name, place of business (if any), usual residence, and qualifications of the candidate must be distinctly specified. This form must be subscribed by him, and signed by at least six Fellows or four Fellows and two Associates, certifying a personal knowledge

of the candidate; or, in the case of a person who has passed the Qualifying Examination, by four Members of the Council, of whom the President shall be one, after careful enquiry into the antecedents of the applicant.

The proposal so made, being delivered to the Secretary, will be submitted to the Council, who, on approving the qualifications, will determine the class for which the candidate is to be presented for ballot.

The following are the rates of contribution to the funds :—

	Annual Subscription.				Admission Fee.		
	£	s.	d.		£	s.	d.
<i>Student</i> . . .	1	1	0	.	—		
<i>Associate</i> . . .	2	2	0	.	3	3	0
<i>Professional Associate</i>	2	2	0	.	3	3	0
<i>Fellow</i> . . .	3	3	0	.	5	5	0

No person can become a Member (other than an Honorary Member) of the Institution, unless and until he pays as his first Subscription to the Institution, in the case of becoming a Fellow of the Institution, the sum of Eight Guineas, in the case of becoming a Professional Associate of the Institution, the sum of Five Guineas, and in the case of becoming an Associate of the Institution, the sum of Five Guineas.

All Fellows, Professional Associates, and Associates, are required, within twelve months after their election, to deliver to the Council an original Paper on some subject connected with the profession, or to make a donation to the Library or Collection.

The affairs of the Institution are under the management of a Council, which is elected annually, consisting of a President, four Vice-Presidents, sixteen Fellows, two Professional Associates, and two Associates.

The Session of the Institution commences annually on the second Monday in November, and continues to the end of May. The Ordinary General Meetings are held on every alternate Monday during the Session. At these Meetings original communications are read on professional subjects, and their merits fully and freely discussed. Every Member has the privilege of introducing one visitor to these Meetings. Members are entitled to a copy of any printed publication issued by the Institution after their admission.

THE OPENING ADDRESS

BY

CHARLES JOHN SHOPPEE, PRESIDENT,

AT THE ORDINARY GENERAL MEETING OF

THE SURVEYORS' INSTITUTION,

NOVEMBER 14TH, 1892.

GENTLEMEN,

I feel it no slight distinction to appear before you this evening in the capacity of President of this important Institution, but there is no human happiness without alloy, and if anyone is disposed to covet me the honours of the position I am not sure he will envy me its responsibilities, especially the very serious one which confronts me this evening. I fear I have not been very successful in my quest for something particularly fresh or instructive amid the stubbornly practical circumstances of our calling. I have, however, the consolation of the mariner who threads a well-buoyed channel, and whose own fault it is if he goes astray.

It was the wise policy of those who founded the Institution to make it inclusive of every class of practitioner, and it is as an urban surveyor that I address you this evening. This being so, I am impressed with the wisdom of touching very discreetly on country themes, and you will not consequently look to me to conduct you on any of those delightful circular tours through the agriculture of the globe with which some of my predecessors have favoured you. I shall not even strive to emulate ADDISON's worthy knight who,

you will remember, "gained universal applause by explaining a passage in the Game Act."

We have all looked forward with interest to the final report of the Select Committee on Town Holdings, which has at last made its appearance. The authors of the agitation which led to its appointment have probably experienced a momentary disappointment over the defeat of their expectations, but they will console themselves with the reflection that a theory, however completely refuted, can be reintroduced with virgin freshness before many months are over, and they will be encouraged in this by the circumstance that various sections of the report were only carried by small majorities.

The subjects of reference are familiar to us all. Put shortly, they were—(1) Leasehold enfranchisement; (2) The direct assessment of ground-rents and of increased values imparted to land by building operations; and (3) The taxation of vacant building land.

The Committee was nominated as long ago as March 1866, and, after an investigation extending over almost the whole of the intervening Parliamentary periods, issued their final report on the 23rd of May last. They had already reported, in 1889, their conclusions with reference to leasehold enfranchisement. They held, speaking generally, that leasehold enfranchisement would not, on the whole, have much practical effect in improving the quality of houses built, and that the quality of building depends upon circumstances other than those of tenure, and that, though some encouragement to lessees to improve and develop their trade might result from a general measure of enfranchisement, they were not convinced by the evidence that the power of enfranchisement would be generally taken advantage of, especially if coupled, as, to use their own words, "*must in fairness be the case,*" with provision to secure to the reversioner the value

of his property, and compensate him for the injury inflicted on him. The Committee were, therefore, unable to recommend any general scheme of compulsory enfranchisement indiscriminately applied to the whole country, though it is fair to add that they were of opinion that there were limited areas that might be so dealt with under powers to be conferred for the purpose on local authorities. It must be confessed that this narrows the controversy down almost to the vanishing point, so far as the alleged urgency of enfranchisement is concerned.

The questions of the direct assessment of ground-rents and of improved values imparted to land by building operations are dealt with in the Committee's final report issued in May last. An imposing array of witnesses—surveyors, barristers, solicitors, professors, accountants, actuaries, builders, trustees, and philanthropists at large—propounded their views in the course of the Sessions of 1889, 1890, and 1891, and their evidence is weighed and sifted with the greatest skill in the admirable report of the Committee.

First, as to the direct assessment of ground-rents. "The idea," say the Committee, "that ground-rents are a class of property that at present escapes assessment for the purposes of local taxation is of course erroneous. The basis of all rating is the whole annual value of the building and of the ground on which it stands, regarded as one entire property."

To our lamented friend Mr. RYDE (than whom no member of our profession possessed a clearer head, or a greater faculty of lucid exposition), we owe it that this truth was driven in upon the minds of the Committee. To the great majority of surveyors it is of course a fact of axiomatic clearness. The contrary view was declared by the Committee not to bear examination, and they add, very acutely, that if the rateable value in a borough can be

increased by dividing it into various interests, it must be equally true that, if, under a system of leasehold enfranchisement, lessees in any town generally bought up their ground-rents, the rateable value would be largely diminished.

The Committee, basing themselves on the well-known report of 1870 and on the evidence before them, came to the conclusion that the ground landlord bears the burden of all rates current at the time he enters into a bargain to lease his land, but that the house-owner bears all increase of rates imposed during the run of the lease, which is of course the common sense of the whole matter. I am afraid that Mr. SIDNEY WEBB, a professor of political economy, did his best to confuse the issue as regards the ultimate payment by the ground landlord by reference to what he called "economic friction" (an expression which the Committee were unable to understand). But, as this novel element in the controversy was treated with scanty respect by another and more eminent economist, we need trouble ourselves no more about that.

The proposal to levy a distinct rate on the owners of freehold, in addition to existing taxation, so as to tax reversions in proportion to their values, received most exhaustive consideration at the hands of the Committee. Not to weary you, the proposal was dismissed as impracticable, on the ground that the only proper subject of valuation is, in its essence, the property as it actually exists, with the house upon it.

As to the division of rates between occupiers and owners, it is pointed out that the arrangement would be of no benefit to the large number of compound householders who do not pay the rates, and that in short tenancies, of which there are an enormous number, the frequent opportunities for readjustment of the rent would lead to the speedy reimposition of the ostensible burden on the tenants;

but that in other cases, where the arrangement would work, there would be an advantage in making the apparent incidence correspond with the actual incidence, and in view of this consideration the Committee incline to the principle of a division.

As to existing contracts of tenancy, it is at first sight surprising that any responsible person would venture upon recommending a variation in the terms of a current bargain, and it is rather startling to learn that a fiscal authority of such eminence as Mr. GOSCHEN should, in 1870, have proposed something which looks uncommonly like it in his report to the Select Committee on Local Taxation. It is pointed out, however, that Mr. GOSCHEN had in view occupation leases only, and did not contemplate the effect in the case of ground-rents and chief-rents. Moreover, Mr. GOSCHEN's Committee proposed that the owners of property held under lease should be exempted from the proposed division of rates for a period of three years, and that after that period power should accrue to the owner to add to the rent a sum equivalent to "the like proportionate part of the rates calculated on the average annual amount of the rates paid by the occupier during the three years." Whatever this may mean, it is clear that the proposals of Mr. GOSCHEN's Committee cannot be described as recommending such a naked dealing with existing contracts as is represented, with more or less candour, by those who would gladly see "SAUL also among the prophets." The Select Committee therefore report against the proposal to carry back the system of the deduction of rates until it reaches the owners of existing ground and chief rents.

There remains but one point more to touch upon before I leave this subject—the proposal to tax vacant building land at a rate beyond its actual present annual income, in order to force it into the market and prevent the owner from

creating what is called an "artificial scarcity" in order to enhance its price. Apart from the difficulty of deciding what land is or is not ripe for building, the effect, as the Committee point out, would probably be to accumulate large areas of land in the hands of rich owners or of syndicates who could afford to await their market notwithstanding the penal taxation imposed on them. No words could be wiser than those with which the Committee close this branch of their report:—"We think the community may, on the whole, trust to the intelligence and self-interest of owners to manage their property, so as in the long run to produce the maximum of income from it, and, as the income is taxed whenever it arises, the community benefits along with the owner, and thus in the end all that the land produces is subject to taxation."

On the whole the report represents the emergence (would I could add the word final) of good sense out of the tangle in which certain persons, who delight to illustrate hazy speculation by crazy economics, managed for a time to involve it, and no little share of the work of elucidation has been borne by members of this Institution whose names appear over and over again in the margins of the report.

The question of Town Holdings leads me to the subject of the recent disasters among the building societies so largely interested in this class of property. These societies are most valuable auxiliaries to the cause of thrift, and for that very reason I have a strong conviction that a more effective system of registration is urgently needed, as well as the periodical examination of their financial position by a Government auditor.

We know, as a matter of fact, that in a great many cases the funds of the smaller societies are invested on the sole responsibility of a so-called surveying committee,

entirely destitute of professional knowledge; and I think it should be made a condition of registration that every such society should be required to employ a competent surveyor to advise in all dealings with property.

These recommendations have, I notice, been put forward quite independently, and adopted at the meeting of the Associated Chambers of Commerce held at Newport, Monmouth, a week or two ago.

Being, as I have said, connected more especially with the urban side of our common profession, I naturally feel great interest in the subject of the codification and amendment of our existing Building Acts in London.

In common with the other bodies interested in this subject, the Council of the Institution availed themselves of the invitation of the late President of the Local Government Board to formulate their views on the subject, using as a basis the draft Consolidation Bill prepared by the Department, I presume as a *corpus vile* on which to operate.

The Council were not able to adopt some of the suggestions introduced in the Government Bill from existing Acts, but, with the assistance of a powerful Committee, were enabled to submit a large number of new proposals for the amendment of the details of the Bill. Among the general suggestions put forward by our Council were the following:—

(1) The Council are not in possession of the reasons of the Local Government Board for confining the Consolidation Bill entirely to questions of building construction and the Acts relating thereto, and, unless there are strong reasons to the contrary, they are of opinion that such provisions of the existing Acts as relate to street line and frontage questions, and such portions of the provisions of the Public Health Act as relate to house drains, and all sanitary questions *within the curtilage of the building* should be incorporated in

the Consolidation Act, and that all these matters should be placed under the supervision of the district surveyor.

(2) It is most desirable that the present duality of authority with reference to the many incidents of a building should be got rid of, and that only one application and the consent of one authority should in future be necessary, thus avoiding the vexation, delay, and expense attending the present system.

(3) The Council of the Institution are of opinion that, where an application for any special permission is made to the London County Council or to a local authority, the Act should require the decision to be given within a reasonable time, and where application is refused that the grounds of disapproval should be stated.

(4) In all cases in which the London County Council or superintending architect have a discretionary power, an appeal shall lie to the Tribunal of Arbitration constituted under the 85th section of the Act.

(5) Further, the Tribunal of Arbitration should, in the opinion of the Council of The Surveyors' Institution, be invested with power to dispense in special cases with a literal compliance with the Constructive Clauses of the Act.

Whether, and if so to what extent, our recommendations will commend themselves to the authorities remains to be seen. As a purely departmental matter, without any conceivable political significance, it is to be earnestly hoped that the change of Government will not put an end to this very necessary movement for bringing our London Building Law into harmony with itself and with modern requirements. Those of us whose practice lies much in this direction are familiar with the tiresome uncertainty and the vexatious delays which result from the present confused state of the law, to say nothing of the jumble of jurisdictions; and it is to be hoped, now that the Local Government Board are

in possession of the well-considered views of all the bodies practically identified with building operations in London, that a real effort will be made next Session to pass a general Building Act of some description.

Public improvements in London, having of recent years become identified with proposals which go to the foundation of our system of local taxation, have been practically at a standstill since the London County Council have taken the reins of government into their hands. Their predecessors, it is computed, spent during 33 years an average sum of £500,000 a year on work of this character, while the County Council in the three years of its existence have spent only a little more than £289,000 in all on new street improvements. Unless the new Parliament is more compliant than the old one, matters are likely to remain at a deadlock, the London County Council having decided, in words somewhat lacking in grammatical precision, that they will not proceed with any new scheme "failing provision by Parliament for some equitable division of the nett cost of the improvement between the owners of ground values and the occupiers thereof."

We have all studied with interest the scheme for a great thoroughfare, 100 feet wide, between Holborn and the Strand. The objects of the scheme were stated by the County Council to be as follows:—

(A) To combine a first-class thoroughfare from Holborn to the Strand with the widening of Holywell Street and St. Mary-le-Strand.

(B) To open a direct thoroughfare from the north to the Strand, Fleet Street, and Temple Bar, going eastwards, as well as for the traffic towards the Strand, Wellington Street, and Waterloo Bridge, westwards.

(C) To improve the communication between Covent Garden and Long Acre District and the Lincoln's Inn District.

(D) To open and improve one of the most insanitary and decaying quarters of London.

(E) To offer an opportunity for a central and commanding site for a new County Hall.

In the abstract, all will agree that a new first-class north and south thoroughfare is needed, and that the Strand should be widened by the removal of the block of buildings between Holywell Street and the main thoroughfare. We shall also, probably, be agreed that it is desirable to improve the communication between Covent Garden and Long Acre and Lincoln's Inn Fields, and that the reconstruction of the miserable district about Clare Market is in itself an object well worthy the attention of the County Council. It is not, however, clear, to my mind at any rate, that the improvement of this squalid district need be associated with the scheme for dealing with the vast commercial traffic north and south, and for relieving the congested condition of the Strand; nor am I satisfied that the new street, either as regards the position selected or its general conception, will have much effect beyond providing a noble vista at the cost of intensifying existing evils. The authors of it appear to have been influenced unduly by the desire to use the Church of St. Mary-le-Strand as an architectural termination to the new thoroughfare, and they are accordingly in some danger of subordinating practical to æsthetic considerations.

I cannot help thinking that the main principle to be kept in view is, not to bring fresh traffic into the Strand but, to draw as much of it as possible on to the Thames Embankment, which is now most imperfectly utilised; and for this reason I think it would be a much better plan to construct a low-level street from the foot of Surrey Street to a point about midway on the western side of Lincoln's Inn Fields, and thence by a street trending north-westwards to the north end of Little Queen Street, Holborn. The new

street I propose would pass on the level from the Embankment to the northern side of the Strand, at a depth of 23 feet below that thoroughfare, which would be carried across it by means of a bridge; thence, for about 1,350 feet, at an easy gradient of about 1 in 30, to the level of the existing roadway on the western side of Lincoln's Inn Fields. The Waterloo Bridge traffic would be provided for by a spur street on the site of Clare Street, Blackmore Street, and White Hart Street, in much the same way as is suggested in the plan of the London County Council.

Nothing, in my opinion, could be more undesirable than concentrating the immense traffic which now finds its way north and south, by a multitude of routes, upon one point, and that one of the least convenient in the already overcrowded Strand. I have examined the levels, and am satisfied that the low-level street I have suggested is practicable, and that no heavier gradient would be involved than those existing in the case of similar streets constructed in recent years in other parts of London. My plan would involve the taking of the whole block of buildings on the west side of Surrey Street, but would save the taking of the larger block between the proposed Circus in the London County Council plan and Holborn. On the other hand, it would necessitate the appropriation of the forecourts of the houses on the west side of Lincoln's Inn Fields. I know that this particular area, and that of New Inn, is somewhat sacrosanct in the eyes of the County Council, though I have a shrewd suspicion that the loss of area for recoupment by adopting the line through Lincoln's Inn Fields has quite as much to do with their aversion to that route as fear of a powerful opposition from the legal interest.

Since the foregoing paragraphs were written I learn that a modified plan has been put forward in lieu of that referred to. I have considered it, as well as the proposals

of my friend Sir WHITTAKER ELLIS, but I am still of opinion that the low-level street offers the best solution of the problem.

In connection with the subject of Metropolitan Improvements, what is known as "The London County Council General Powers Bill, 1892," needs a word of reference, especially as several well-known Members of the Institution, and notably my predecessor in this chair, appeared as witnesses before the Select Committee to which the Bill was referred. By Clause 7 of this Bill the County Council sought power to construct a bridge over the Metropolitan District Railway in continuation of Cromwell Road, South Kensington, an improvement which is, in my opinion, undeniably needed. The special feature of this Bill was the reintroduction of the principle of "betterment" under the name of an "Improvement Rate," the method of recoupment being a contribution of one-third by the County Council, one-third by the local vestry, and one-third in the form of an improvement rate levied on the owners of property within a radius of half-a-mile from the western end of the bridge, exempting from the rate any owners so included presumably benefited to the extent of less than £1 per annum. This arrangement appears to have had the full assent of two of the parties concerned, but the third party, the owners of property, saw it in a very different light, and resisted it successfully, the Committee deciding, after a careful hearing of all that could be said for and against the proposal, against the principle of "betterment" "applied in this particular case," with the result that the promoters elected not to proceed further with that part of the Bill.

The Bill, however, is to be reintroduced next Session, accompanied, as before, by provisions for an improvement rate to be levied on the owners. I think I may go so far

as to say that surveyors are not altogether opposed in the abstract to the principle of "betterment," assuming it were possible to apply it equitably and without the risk of committing a grave injustice ; but I am quite certain that all experienced surveyors are agreed that it is not possible to apply it equitably, or, at any rate, that none of the plans put forward for the purpose are even approximately just or practical. Certainly the latest proposals bring us no nearer to a sound solution, for, not only is the unfortunate owner, whose property is said to be improved, to be called upon to give up one-half of the alleged increased value by reason of the improvement, in the form of a local contribution, but he is also to pay his share, as an owner in the Metropolis at large, of a moiety of the whole cost of the improvement. And here I would like to make a suggestion for the amendment of any Bill embodying these proposals which may find its way into Parliament. The County Council propose that the owner should surrender one-half of the improved value ; but if the improved value is wholly due to the action of the Council, why should he surrender the half only ? I would, therefore, suggest the insertion, in any Bill of the kind, of a clause empowering an owner, should he wish to forego his share of the increased value, to call upon the County Council to purchase his property at what is declared to be its enhanced price, thus securing to the Council the whole advantage of their foresight and enterprise instead of a moiety only.

There is also another little circumstance which strikes me in this connection. I observe that the owner is not to be allowed to contract himself out of his obligation to pay the tax ; but suppose the owner (not of vacant building land) declines to relet his property, at the end of a lease, except at an increased rent, which will not only cover the tax but also discount the liability to any future taxation of the kind, who

is to say he shall not do so, unless the value of land in London is to be fixed, once and for all, without possibility of increase ?

And what will be the position of the leaseholder, whose selfish endeavours to avoid his contractual liabilities are the real force behind the authors of these proposals, when he finds himself, on the renewal of his lease, back in his old position, and something worse ?

The whole thing is a chimera, impossible of realisation, but certain to lead to a great depreciation in the value of a kind of security which widows and orphans, the most defenceless class in the community, have hitherto regarded as a safe investment for their small means.

One does not like to use hard words, but the present proposals look very like a blind and unskilful attempt to give effect to a foregone conclusion hostile to the interests of property as such. I observe that an endeavour was made to represent that the powers conferred by Section 277 of the Public Health Act, 1875, formed a precedent for these proposals, but when it is pointed out that the section referred to relates solely to the formation of a special area for special taxation, where the subject matter is sewerage or water supply, the benefit of which is easily defined, it will be seen that the analogy breaks down entirely. For it is not easy to see the equity of imposing a permanent charge of four per cent., supposed to represent one-third of the improved value, without the means of periodical adjustment to fluctuations of value, which is the distinguishing feature of our present system of local taxation ; and it is no alleviation of the lot of the unfortunate owner affected to be told that he can get rid of what he will regard as an unjust impost by paying a sum down equal to its capitalised value, without the chance of recovery should it subsequently prove that no improvement has resulted to his property.

The crudeness of these particular proposals was displayed by the absence of any provision in the Bill for relieving a minority of the owners in the scheduled district of the whole burden, should the arbitrator decide that a majority of the owners would derive little or no benefit from the improvement. The scheme had this further vice—that the proposed betterment rate amounts to a first charge instead of a last charge on the property, to be paid out of present income instead of on ascertained income distinctly traceable to the improvement, which is a departure from all sound principles of taxation. At this rate successive improvements might be conceived as absorbing the whole present income from the property, and relegating the owner to a constantly-receding future, so far as reimbursement is concerned.

Our present system of local taxation has stood the test of many generations, and if the doctrine of “ransom” is to take its place it will be better, for the sake of the English language, to call it by its proper name. Thus much seems certain—that if the principle of what is barbarously called “betterment” is to be adopted, the system of what is still more barbarously called “worsement” must accompany it; and if rumour is to be credited, some of the advocates of the new system are coming round to this view.

I think we may take it that no arrangements designed to interfere with the natural operation of economic laws can enjoy more than a brief existence.

The old Acts against “forestalling” and “regrating” failed in their operation because they were opposed to the universal instinct which makes every man regard it as legitimate to use his courage, his skill, and his foresight, for the promotion of his own interest; an instinct which lies at the foundation of all progress.

The well-known Act of the 35th Elizabeth, for restricting new buildings, and the division of existing buildings in

London, failed for a similar reason, and the same may be said of the statutes against "hoarding" and "usury," and in another category the law of "settlement" and the statutes fixing the wages of labour. Ingenuity would have been powerless to evade these restrictive laws had they not run counter to the foundation principles of progress, and I do not think that the new gospel of Spring Gardens will in the long run fare any better than its predecessors.

I am afraid the present pace of the London County Council is a little trying to the nerves of many persons. We have all been somewhat startled at their latest departure in determining to do away with the contractor and become their own builders. Even the placid optimism of Sir JOHN LUBBOCK was ruffled by this proposal, which any practical man will feel contains the germs of infinite trouble and risk to all concerned. I suppose it is part of the crusade of the modern *doctrinaire* against the person he is pleased to call the "middleman," which means in plain English every man except himself. It is impossible that a course of this kind taken by such a large potential employer of labour as the London County Council, with its particular relations to the working-class population, can have other than serious effects in raising the general standard of wages. But this is not all, or by any means the worst of it, for the evil will be intensified by the absence of the competitive element which tends to neutralise the normal ascent of wages by the improvement and the cheapening of processes, and by the devising and introduction of labour-saving appliances. Nor is even this all, for the present system of contracting ensures a careful supervision over the details of expenditure, and provides a person of means against whom a claim will lie for bad or for faulty or inadequate work. Who is to take the place of this person under the new arrangement? Are the workmen to be individually sued and compelled to make good.

defective work at their own expense, or is the County Council to become the middleman in place of the contractor, with this difference, that whereas the ordinary contractor is in a position of pecuniary responsibility to his employer, the new middleman (the County Council) is to be in a position of pecuniary responsibility to no one, whatever may be the general responsibility to the employer, the ratepayer? The modern cant about the middleman is apparently about to be put to a practical test, though it should be evident enough to men of common sense that he is a necessary link in the long chain of production and distribution. There is prevalent a confusion of thought between what are known as "rings" (of which labour organisations, by the way, are a conspicuous example) and the intermediaries who exercise a natural and legitimate function in organising the application of labour to the needs of the community, and, by taking upon themselves the risk, define the extent of the client's outlay. Every objection that has been urged against the exercise of direct or indirect political influence on workmen by their employer is true in a tenfold degree when for the private employer is substituted a body elected under a popular franchise,—with this difference, that the pressure is not in this case from above, but from below.

There has been nothing in the past to prevent private clients from dispensing with the services of a contractor save the general conviction that by his capital, plant, skill, and accumulated experience, he performs useful functions in relation to operations lying outside the sphere of lay knowledge. The contractor, therefore, is no marauder "gathering where he has not strawn," but a person evolved out of the necessities and conveniences of civilised life. I hope you will pardon me this digression into controversial fields, it being well understood that your President speaks in his own name, and not at all on behalf of the Institution.

Nothing has been more striking in recent years than the increased attention devoted to questions of public health. I think it may be said of all movements that they pass through at least four stages—the pioneer stage (often a single voice crying in the wilderness), the groping stage, the dogmatic stage, and the stage of practical adaptation to existing circumstances.

As regards sanitary questions we have certainly got beyond the first two stages, and my only fear is lest, while still in the penultimate stage, we should assume that we have reached finality, for I observe that there is a loud demand for authoritative interference in all directions, and for legislation of a kind so Draconian, in the interests of public health, that one begins to wonder whether anything at all will be left to the initiative and the good sense of the individual. What is wanted is progress not only from above but from below, and here there is a field for the further activities of our leading sanitarians.

Much might also be done in this direction through the medium of our elementary and secondary schools; for I have never been able to see why a knowledge of the conditions that make for health—the most valuable of man's possessions—should not be regarded as of equal importance with the physiology which forms a portion of the curriculum in many of our primary schools; and, seeing that those who attend them have such ample opportunities of subsequent instruction in their rights, a little early tuition in their duties to themselves and others might be attended with benefit. For no exercise of authority will prevent people living in a state of filth who know nothing of the intimate connection between filth and disease, and who apparently believe, with Sir WILLIAM PETTY, in his amusing observations on the bills of mortality, that there is a certain degree of safety in a vitiated atmosphere, “the fumes, steams, and

“stenches of London so medicating and impregnating the air
 “about it that it opposes and jostles backwards other malefic
 “influences.”

To this point I should like to see some of that sanitary zeal directed which is now devoted to the evolution of endless schemes for erecting systems of sanitary depotism which are altogether out of touch with public sentiment and knowledge among the masses.

The proposed Bill for the registration of plumbers indicates a recognition of one of the weakest points in our defences against the zymotic forms of disease, and as I have been concerned to some extent in the inception of this movement I may, perhaps, be forgiven making a short reference to it. But before doing so I think it right to state how much the movement out of which the Bill originated, owes to the indefatigable efforts of my friend Mr. GEORGE SHAW, who, like many pioneers, has allowed his modesty to somewhat obscure his merits. It is not, as is often supposed, a Bill for the compulsory registration of plumbers, but one for the registration of plumbers who choose to submit themselves to the test of examination, and who by passing it are indicated as competent persons whom the public, if they are wise, will employ, in preference to the ignorant bunglers who throng this trade. The Bill, therefore, may be regarded as merely an attempt to obtain the prestige of an Act of Parliament for a General Council of Control on which all the various bodies directly or indirectly concerned with sanitation may be represented. The Bill, as I understand it, practically leaves the executive work in the hands of the Plumbers' Company, who have already done such useful service in this direction; and it is well that it is so, for a more heterogeneous body than the proposed General Council it would be impossible to conceive. The movement, nevertheless, will

help, as I have said, to close a breach in our defences, and will probably be productive of useful results.

My friend Mr. CHATFIELD CLARKE and I were honoured by being appointed representatives of the Institution at the late International Congress of Hygiene and Demography. As in all congresses, much that was extremely interesting was elicited in the course of the proceedings among much that struck me as neither new nor practical.

There is probably no branch of the sanitary question more urgent or more difficult of solution than that of the water supply of London, which formed the subject of a very interesting Paper read during last Session by our lamented friend the late Mr. J. W. GROVER. The Government that makes up its mind to grapple with the question, no matter to which side of politics it leans, will earn the gratitude of the country. It is not a matter which can be carried to its completion in a session or in half a dozen sessions, and we are threatened meanwhile with dangers to the public health which will not wait until Parliament has cleared its hands of matters of infinitesimal relative importance.

No better measure of the dimensions of this question can be found than the instructive memorandum of the late Deputy-Chairman of the London County Council prepared for the information of the Royal Commission on Metropolitan Water Supply. The estimate of the necessities of future water supply are based—(1) on a period of fifty years from the present time; (2) on the supply of a population of at least 12,500,000, and an increase of at least 10 per cent. in the supply per head. The calculation is instructive, and seems based on reasonable probabilities.

During the present century, and up to the year 1881, the population of London grew decennially something like 16 to 21 per cent., but in the decade 1881-91 the rate of increase in what is now the County of London fell to 10.

per cent., which, being interpreted, meant, as the Deputy-Chairman of the London County Council put it, that the space available for building within Inner London was being rapidly appropriated, and that the railway and other facilities of communication enabled vast numbers of Londoners to live in the surrounding suburbs, in a constantly expanding zone.

Therefore the rate of increase of the period 1881-91 applied to this larger area would give in 1941 a population of $17\frac{1}{2}$ millions, or, taking the rate of increase at the mean of the rates for the three decades 1861-91, $14\frac{1}{4}$ millions, or, taken on the basis of the natural excess of births over deaths, about $10\frac{3}{4}$ millions. I will not weary you with the whole of the calculations, but the final conclusion come to is that in arranging for a water supply for 50 years it would not be safe to make provision for less than an ultimate population by the expiration of that period of $12\frac{1}{2}$ millions. These stupendous figures take one's breath away, and set one wondering where the future water supply of London is to come from. For we know from official figures that the present population of $5\frac{1}{2}$ millions use 167 million gallons a day, and applying these figures to the larger population, we reach the astounding total of 375 million gallons per day, or one-fourth more than the whole average dry-weather flow of the Thames at Teddington.

As the districts within accessible distances of London are becoming fully alive to the importance of preserving their water rights for their own purposes, it is difficult to see a solution of the problem short of some vast system of rain-water storage and filtration; but perhaps the motto "*ne sutor ultra crepidam*" applies as much to this as to one or two other of my excursions into provinces not strictly my own.

It is worth recording that the London County Council

have sought and obtained powers, which they did not previously possess, to pay the costs and expenses of promoting Bills in Parliament relating to the supply of water within the companies' districts, as well as of inquiries as to the existing and future sources of supply. I need hardly say that I have no sympathy with an unreasoning crusade against the water companies; but I cannot disguise from myself the fact that no harm will result from the existence of an organised, popular control over a body of powerful monopolists.

As I have said, the branch of our many-sided profession with which I am connected is not much identified with agricultural pursuits, and it would therefore be presumption on my part to venture far into that region. Confining myself, however, to mere statistics, I cannot forbear an expression of surprise at the meagre results achieved under the operation of the Rural Allotments Acts, 1887 and 1890. I have had before me a return as to the acquisition of land by local authorities under these Acts issued a few weeks ago by the Local Government Board.

There are, I believe, about 575 rural sanitary districts in England and Wales. Of these, 56 only have acquired land for allotments, in 12 parishes by purchase under agreement, and in 82 parishes by hire under agreement; the total area of land so acquired being 1,126 acres. This land has been distributed among 2,733 tenants, representing an average holding of a little over 65 perches. There remain 519 out of the 575 rural sanitary districts in which nothing has been done under the Acts, and in the large majority of cases the explanatory note of the return is either, "no application has been made," or, "amply provided with allotments," or, "cottages already provided with large gardens."

Further, it appears that the action of the county councils,

who possess a sort of appellate jurisdiction under the Acts, has been applied to 81 acres only, let to 76 tenants.

Compulsory purchase is represented by 14 acres in a Norfolk parish, not let at the date of the return, the operation in this case being apparently, as the Americans would say, a little "too previous." But let that go. In addition to the 14 acres purchased compulsorily by the county council in Norfolk, 60 acres have been hired by agreement by the same body, 6 acres hired by agreement in Kent, $7\frac{1}{2}$ acres in Hants, and 7 in East Suffolk. I am aware that the return is said to be misleading, as the Act was intended to operate mainly as a *vis a tergo* in compelling reluctant landowners to agree quickly with their adversaries while they were in the way, and figures have been advanced in proof of this calculation. The Italians have a cynical proverb which says, "always count after your father," an adage which may be applied without ill-nature to statistics emanating from interested quarters.

So far as there is a real demand for allotments, no body of men have advocated their provision more warmly than the surveyors of England. We have never admitted that they are generally needed or would in a large number of cases be of real benefit to agricultural labourers, where already provided with sufficient garden ground. It will be instructive to compare future returns with that which I am discussing, as we shall then see how many of the allotments have been retained and how many surrendered after a brief experience of the joys of agricultural occupancy. I suspect that it is less a matter of the rood maintaining the man than of the man maintaining the rood.

The question of small holdings differs considerably from that of allotments. The large farm system of 15 years ago seems to be breaking down, but whether the small farms will do better remains to be seen. Be this as it may, what

demand there is for small rather than for large holdings, a fact which is probably in the main accounted for by the diminished capital at the command of the farmer.

Both the Small Holdings and the Allotments Acts aim at replacing a large number of people on the soil. I observe, from Mr. LAW'S report on Russian agriculture, that they adopt the shorter way in Russia of peremptorily ordering, instead of enticing, back to his village, the peasant who thinks he can do better elsewhere, with the result that the land is impoverished by being made to yield its utmost without any expenditure of a recuperative kind. I can only hope that these attempts to bring back the rural population, in face of the economic conditions that drove them to the towns, may not lead, as it has done in Russia, to a serious reduction in our average yield per acre, or the still more serious result, of which Russia affords a striking example, of loading the land with a population struggling with accumulated arrears of interest and taxation. The comparison is not complete, but there is at least some analogy between the communal system in Russia, which absolutely ties the peasant to his native district, and proposals which would act in a somewhat similar way, by endowing an agricultural labourer with land which he cannot alienate, and a debt hanging over him which he cannot discharge for many years.

Personally I regard all attempts to reintroduce a system which failed to maintain itself under far more favourable conditions than the present, as pregnant with serious risks to those it is sought to benefit, as well as to the prosperity of the country at large.

And here let me say a word with reference to somewhat reckless statements, emanating from high quarters, with reference to rent reductions in one portion of the United Kingdom. These statements have been met and

refuted by Lord SUDELEY ; but the Council of the Institute happen to be in possession of a mass of information on the subject, furnished by the Provincial Committees, and which shows that the remissions of rent in Wales have *mutatis mutandis* been as liberal as in England. No charge could be more unjust to the landowners, who have made noble sacrifices to enable the tenants to tide over their difficulties.

As regards the gloom which still hangs over British Agriculture, and speaking not at all as an expert, but as an ordinary observer, I am inclined to believe, grave as the present crisis undoubtedly is, that the average estimate of it takes its tone too much from the state of things in the east and south-east of England. The statistics collected by this Institution two years ago, for the use of the Royal Commissioners on Tithe Rent-charge Redemption, presented a picture of agricultural depression which we must all deplore, but taken as a whole the situation was then by no means desperate, and was not even exceptionally bad over a large area of country ; and, however aggravated the evil may now be in those districts which two years ago were so disastrously affected, I believe that matters are not in a state of acute depression in the other and larger districts of England to which I have referred. Nevertheless, the situation is grave enough—the more so that there is no apparent rift in the lowering cloud. We have been saved by the prompt action of the Board of Agriculture from what would have been a crowning disaster, which is something to be grateful for. That the coming Conference at the Central Chamber of Agriculture will throw any light on the situation I am not sanguine enough to believe. Every possible plan has been under continuous discussion for the last ten years, and unless the Conference commits itself to a reversal of our present fiscal policy I do not see what it can elicit that has not been propounded a thousand times already.

If rumour is to be trusted, we shall see, in the course of the next Session of Parliament, some legislation for the redemption of tithe rent-charge, based on the recommendations of the Royal Commission embodied in their report presented to Parliament in February last.

The Commissioners' recommendations were, you will remember, that, in the case of a voluntary redemption, the present limit of 25 years' purchase of commutation value should be abolished and that each case should be dealt with on its own merits by a determining authority like the Board of Agriculture.

That tithe rent-charge on land built over, or about to be built over, should be compulsorily redeemed.

That the operation of the provision for compulsory redemption, in the Tithe Act, 1878, of tithe rent-charges, not exceeding £1, should be made more especially applicable to cases in which a tithe-payer is liable to pay a number of small apportionments, amounting in all to less than the sum stated, and where assistance is given by advances of public money, that the limit be extended to £2.

That, to prevent the continuance of rent-charges on land maturing for building, the ground-owner should be compelled to effect the redemption of the charge before any building is commenced.

That, in the case of land already built upon, the Board of Agriculture should be endowed with powers, which they do not at present possess, to initiate and compel redemption. Six well-known Members of the Institution gave evidence before the Commission, and it is easy to see that their views were largely adopted by the Commissioners, of whom our late lamented friend Mr. BEADEL was one, and our friend Mr. MEADOWS WHITE another.

My predecessor referred, in his Opening Address of last Session, to the movement in connection with technical

and secondary education, and with much that he said, as regards agricultural education, I am in practical agreement, so far as I am capable of forming an opinion; but there is another side to it which fell less within his purview—the question of technical education in what are called the county boroughs. In these great progress has been made as regards the devotion of all the fund placed at their disposal by the Technical Instruction Acts to education as distinguished from aid to rates; but here, as in the counties proper, progress has been hampered by the absurd preclusion, by the Act, of the teaching of the practice of any trade, industry, or employment, and its limitation to “instruction in the use of tools, processes of agriculture, &c.” It is impossible that this restriction can be long preserved—the trades unions notwithstanding.

Before leaving the subject of technical education I should like to point out that the initiative in these matters was taken by the Corporation and united Guilds of the City of London, who about 14 years ago established, and have since supported by grants of the most generous kind (amounting in the aggregate to more than £380,000), the well-known City and Guilds of London Institute. It is matter for regret that the Corporation of the City of London, who have contributed no less than £14,500 to the work, have this year withdrawn—it is to be hoped only temporarily—from its support.

All this, however, is merely by the way of shewing that the present movement in favour of Technical Education originated with those bodies which have been made the mark in recent years for much ungenerous criticism.

The subject of technical education is one in which, in our special way, we are vitally interested as an Institution. It is to the rising generation of surveyors that we must look to ascertain the quality of the men who in the future

will carry on the great work of this Institution, and I think I may say that, judging from the progress and development of our examination system, we may regard the prospect with equanimity. Each year sees an increase in the numbers of the candidates, a larger proportion of successes achieved, and a higher standard of efficiency attained; and, now that the examination system represents the only portal of admission to our ranks, we cannot too carefully scrutinise the details of this development, nor assign too much importance to the fact that it is so satisfactory.

In the 12 years during which we have held examinations as a test of qualification for Membership of the Institution, 433 candidates—young men at the very outset of their professional career—have passed the Preliminary or Studentship Examination, which, though not qualifying them as actual Members of the Institution, gives them many of the privileges of Membership, and identifies them from the first with the Corporation which represents their profession. During the same period nearly 500 candidates have qualified for the Professional Membership of the Institution, the numbers rising annually by steady steps from 1 in 1881 to 93 at the examination of this year, and it is satisfactory to observe that there are indications that the rise will not only continue, but progress in an increasing ratio. But in order to secure this result it is necessary that our Members, one and all, should bear in mind the fact that the future of the young men entering the profession under their guidance will depend greatly upon their early connection with the Institution. In 20 years' time there should hardly be a single practising surveyor without the qualification which our examinations confer. No vocation has suffered more than the surveyor's at the hands of empirics and charlatans, and every respectable practitioner is interested in the preservation of his profession from the discredit that results from

the operations of these marauders. Much has been done by the Institution in the past 25 years, but much remains to be done. There are not wanting signs that the pressure of the process of differentiation is making itself felt; and it is right it should be so.

I will not weary you with pæans over our prosperity. It is sufficiently obvious, but it rests with you to maintain and increase it; and I appeal to you, if appeal be needed, to strengthen in every way the hands of those to whom, for the time being, you have entrusted the reins of executive government.

Sir R. E. WEBSTER, Q.C., M.P. (Associate of Council), said it was with great pleasure that he found himself again in that Hall, and allowed by the courtesy of his professional brethren to have the honour of proposing a very hearty vote of thanks to THE PRESIDENT for his admirable Address. In that room he had spent many pleasant and not altogether unremunerative hours, and in the course of the twenty-three years during which he had been brought into contact with many of the leading Members of the Institution he had been permitted, with scarcely an exception, to number them among his personal friends. During the last six or seven years he had occupied a position of "less freedom and greater responsibility," and had not, therefore, been able to be present at the meetings. He esteemed it all the more a privilege to be permitted to propose a vote of thanks which should indicate the appreciation of all present of the care, prudence, and thought which THE PRESIDENT had bestowed on the preparation of his Address.

There was one subject touched upon in the Address to which he could not help alluding. He could not look at the list of Past-Presidents of the Institution (although it was a great satisfaction to know that he who bore the honoured

name of JOHN CLUTTON was still enjoying the repose which he so well deserved) without a tinge of sadness when he remembered that out of the thirteen names on that list some seven or eight had already passed away. Perhaps there was no one who had done more for the Institution from its earliest inception than EDWARD RYDE, who was engaged in the active practice of his profession for a long course of years, taking part in many hard-fought contests. He was a man of singular ability and of great resource, and was endeared to all who knew him by his good-humour and his fidelity to his friends.

Another name would, of course, occur to all present—that of WILLIAM JAMES BEADEL—in whom the profession had lost a very brilliant representative, and he a most intimate friend. Both he (Sir R. E. WEBSTER) and his family had received many kindnesses at Mr. BEADEL's hands. Mr. BEADEL was listened to with great respect in the House of Commons, which he impressed greatly not only on account of his commanding presence, but from the air of honest conviction with which he spoke; and because he confined himself to subjects of which he was thoroughly master. He felt sure it would not be thought out of place on his part to notice those two names, for they were, unfortunately, the names of Past-Presidents who had been called away within the last twelve months.

With the permission of the Meeting he would now deal, very briefly, with one or two points in the Address. He agreed with THE PRESIDENT in his review of the Report of the Select Committee on Town Holdings. It had struck him (having had for many years ample means and opportunity of studying this question) that those who talked the loudest were often those who were the least informed on the subject, and he was only too glad to see that a prediction he ventured to make more than two years ago was justified

—that the common sense of the members of the Committee, placed as they were in a judicial position in connection with the question brought before them, had prevailed, and that they had been able to gauge and correctly weigh the accuracy of the testimony with which they had to deal. The present was not an occasion upon which to enter into a detailed argument in support of his views; but he could not help thinking that anyone who retained in his mind any lingering idea that ground-rents were not taxed, or that the suggested system could ever be practically worked, had not yet mastered the merest outlines of the question.

In his Address THE PRESIDENT had been properly severe on the condition of domestic legislation relating to building, to sanitary matters, and to the management of house property. There were only two classes of which he knew who benefited by the existing state of things—the Members of the Institution and the lawyers. He was sure that many of the gentlemen who now heard him had benefited not a little, as had many members of his own profession, from the hopeless labyrinth of statute law and case law which applied to building and house property in the Metropolis. He had had the honour on more than one occasion to assist in taking to the House of Lords questions which arose under the Metropolitan Building Acts, and he had felt, when the fight was over, that it was high time that some draughtsman was employed to put together—he would not say a simple code, but a simplified code of the Acts of Parliament which the Students of The Surveyors' Institution were expected to master for examination purposes.

The Address had been not unduly severe on the subject of "Betterment." He had often discussed this and kindred matters with a distinguished member of the profession, whose name was known less to the younger members than

to his own contemporaries—he referred to Mr. GEORGE POWNALL, who, he was glad to say, was still living and enjoying a happy retirement in his old age. He would like some of his friends of the County Council, and others who were starting these new theories, to have ten minutes' conversation with Mr. GEORGE POWNALL, and ask him his opinion, as a practical man, on the system of "Betterment." Anybody who held that by the improvement of a particular street certain properties were bettered, and who overlooked the fact that certain other properties would probably be depreciated in value, simply failed to grasp the elementary difficulties with which the question was beset. If the occasion were opportune, he could cite (and there were many in the room who could do it far better) instances in which the widening of streets had proportionately depreciated the value of neighbouring properties, although those which immediately fronted the street were improved. He mentioned that fact in the hope that the younger members of the profession would look at the question from a practical point of view, and not be led away by specious theories which would not bear examination.

Turning to another subject, he could not forbear an expression of gratification at the progress of the examinations established by the Institution, and the fact that they were becoming so widely recognised by owners of property and those who employed surveyors, as well as by the public at large, as affording a guarantee of the possession of proper qualifications for the practice of the profession. The Institution had (if he might say so) acted wisely in the way in which it had legislated in this matter, by recognising the claims of those in practice before the introduction of the examinations, while insisting that the younger men should qualify themselves under the new system.

It must be satisfactory to the Members, and especially to

the Council, to know that, year by year, an increasing number of young men were willing and anxious to submit to this ordeal in order to enter their ranks.

It was to THE PRESIDENT, and such men as he, who were willing to give their time to the affairs of the Institution, and to bestow such care on the preparation of their Papers, that the Society owed, to a large extent, its present prosperity; and he, for one, believed that this prosperity would be carried to a still greater height by a long succession of occupants of the Presidential Chair.

Mr. R. C. DRIVER (Past-President) said that, as Mr. SHOPPEE's immediate predecessor in the Chair, he had the pleasing duty to second the vote of thanks which had been proposed in such eloquent terms by Sir RICHARD WEBSTER. He ventured to express his opinion that THE PRESIDENT had been most happy in his treatment of the many difficult subjects dealt with in the Address, especially that of the taxation of ground-rents, ground values, betterment, and other kindred proposals. It behoved all the Members to read and consider the Paper carefully, and to use their best exertions to ensure that no mischievous and irrevocable steps should be taken in the direction urged in certain quarters in the above very special matters.

His views were entirely in accordance with those expressed in the Address, and he need hardly say how heartily he endorsed what had been said by Sir RICHARD WEBSTER with reference to the great loss sustained by the Council in the deaths of two such eminent and practical men as their late friends Mr. BEADEL and Mr. RYDE. It would be very long indeed before their like was seen again. He seconded, most heartily, the vote of thanks to THE PRESIDENT for his excellent Address.

THE PRESIDENT begged to thank Sir RICHARD WEBSTER and Mr. DRIVER for the many, and he feared undeserved, encomiums they had passed upon him. He, too, shared the feelings of the former speakers, when he looked at the tablet in that Hall bearing the names of his twelve predecessors in the Chair, and when he remembered how many had passed away, and what services they had rendered to the Institution and to the profession at large. He felt sure that those who would in future be called upon to fill the office would ever do their best to maintain the principles by which former Presidents had been guided and on which the Institution was founded.

He was especially indebted to Sir RICHARD WEBSTER for his very generous words of encouragement. All present knew the interest which that learned gentleman had taken in their profession, and the great assistance that he had rendered to the Council when matters of difficulty came up for consideration.

He appreciated deeply the honour of occupying his present position, and was glad if he had been able to produce anything of value towards the elucidation of the matters which he touched upon.

The vote of thanks having been carried by acclamation, the Meeting adjourned.

RIGHTS OF WAY.

By J. DOUGLAS WALKER, Q.C., *Associate.*

*Read at the Ordinary General Meeting of THE SURVEYORS'
INSTITUTION, Monday, December 5th, 1892.*

CHAS. J. SHOPPEE (PRESIDENT) IN THE CHAIR.

For practical purposes rights of way may be classed under three heads—public rights of way, private rights of way, and what, for want of a better term, I will call Parliamentary rights of way. I do not pretend that this division is entirely logical, but it will serve for the purpose of identification.

By public rights of way I mean highways, public roads, and public footpaths. These have, according to the theory of the English law, their origin in a dedication by the owner of the soil to the public, for the purpose of passing and repassing on their business, of so much of the surface of the soil as the road or way covers. Observe it is a dedication to the public, that is, not to the owner of any one piece of land, or to the inhabitants of any one village, but to the public at large. From this theory the following results are deducible :—Every one of the public is entitled to pass along the road without let or hindrance; but he must use the road solely for the purpose for which it was dedicated—thus, a person, not the owner of the soil on either side of a high road, is not entitled to stand on the high road for the

purpose of shooting the game that may chance to fly across the road: he is using the road contrary to the purpose for which it was dedicated, and is guilty of a trespass; so, too, if he stand on the road and fish in a stream running alongside the road; and I suppose that even a candidate for Parliament using the high road or village street for the purpose of addressing the electors is liable in damages to the owner of the soil.

In order to carry out the purpose of the dedication, the law assumes that the owner of the soil has granted to the public the whole of the surface of the soil between the fences of the road; the public, therefore, are entitled to the use of the whole of that space as the highway, and are not confined to the part which may be metalled or kept in order for the more convenient use of carriages or foot passengers; and from this it follows that the owner of a field abutting on a highway may make an opening in his fence and go into the highway at any part of the length of the road or the end, and walk to any other spot on the road—a very different right, as will be seen, from that of the owner of a field abutting on a private way.

From the dedication, too, is inferred the right of the public to make and maintain a road sufficient for the purposes for which the soil was dedicated, as, if the dedication was for a carriageway, to make and maintain a road sufficient to support the ordinary traffic of a carriageway.

Further, the law assumes that a depth or thickness of soil has been dedicated sufficient to enable the public (or the public authority representing them) to do what is necessary for the road, and (by a slight extension of the principle) sufficient to enable them to do what is commonly done in or under the road, such as lay pipes, sewers, and other structures of public utility.

A private right of way is defined, in law, as a privilege—

the right confers no interest in the land on the person entitled to the right—the grant of a right of way does not convey the soil over which the way passes to the grantee; and therefore the grantee of a right of way cannot prevent another person, even a trespasser, from using the land, if such usage does not impede him in the exercise of his right of passage; nor can he remove or appropriate the soil or anything attached or growing on it.

Nor does the grant of a right of way confer on the grantee that the owner of the servient tenement should not use his land in any way which is not inconsistent with the enjoyment of the easement. Therefore, if a wayleave be granted across a field and grass grow upon the way, the owner of the field has a right to graze his cattle upon it, provided always that he does not thereby substantially interfere with the right of passage. So the occupier of an arable field across which a right of way on foot runs may have the right to plough up the footpath, in the ordinary course of husbandry; but I should hesitate to advise an occupier that on this principle he might keep a ferocious bull in a field across which the footway runs—at least, with ultimate safety to his purse.

Though the grant of a right of way confers no interest in the soil to the grantee, it does convey everything by which the grantee may have and enjoy the use of it. If a man gives me license to lay pipes in his land to convey water to my cistern, I may afterwards enter and dig the land to mend the pipes, and I may restrain him from doing anything which may hinder me from getting at the pipes, as by building over it. So if A grants me a right of way, I may enter and repair the way, and, further, I may enter and make the way suitable for the purpose for which the right was granted. If he has granted me a carriageway across a field, I may enter and lay down metal to make the

way fit for carriage traffic; but I may not dig up the adjoining soil, to make an embankment or repair the road, unless the words of the grant directly or impliedly authorise me so to do.

A right of way is a right which the owner of a tenement enjoys in respect of that tenement over the tenement of another. The right is dependent on, and annexed to, the possession of land, and cannot be attached to persons. Suppose the owner of Whiteacre to have a right of way over my close of Blackacre, JOHN NOKES, while he is owner of Whiteacre, is entitled to the right and can exercise it; but he could not have the right before he was owner of Whiteacre, and ceases to have the right when he parts with the ownership of Whiteacre—the right then passing with the ownership. You will note the difference in this respect between the dedication of a way to the public and the grant of a private way.

There must be a tenement in respect of which the right is enjoyed called the dominant tenement, and one over which it is enjoyed called the servient tenement, and these two must be in separate ownership. Therefore, while two tenements are in the possession of one person and there exists what is called unity of possession, no easement is created by the user of one tenement in respect of the other, because the owner of the tenements has a right as owner to use each in whatever way he likes, and the right he exercises is not an easement or a right over the land, but a right based on, and incident to, his ownership of the soil. From this it follows that when two tenements belong to one man, the tenant occupying one tenement cannot acquire any easement over the other tenement as against the owner. Again, suppose the owner of a tenement having a right of way over an adjacent piece of land becomes the owner, whether by purchase or

inheritance, of that piece of land: on the principle above stated, the right is suspended during the unity of possession; but if the ownership of the tenement is subsequently severed from that of the piece of land, and the conveyance of the tenement purports to pass the tenement together with all ways used or enjoyed therewith, the effect of these words is to revive the right.

An easement must be a right beneficial to the occupation of the dominant tenement. From this it follows that a right enjoyed by the owner of close A to pass over close B, in order to reach his close of C, must be used for the purposes connected with close A and no other purpose; it must not be used for the purpose of going to close C and beyond, except, indeed, if the way lead to a highway.

And lastly, a right of way is a right to pass and repass from one fixed point to another fixed point, and only between those two points; the person enjoying the right of way has, therefore, no right to open a way into the right of way between those two points, and so in effect to enjoy the right of way from some other point than that which was fixed upon by the grant. Neither has he any right to deviate from the appointed line, not though the way be foundrous or out of repair: for it lies upon him to repair it, and he must take it as dedicated. So a right of way below high-water mark is taken subject to the tide; and the fact that high tide has overflowed the path gives no right to deviate on to the higher or drier cliff.

Where the origin of a private right of way is by grant, the instrument, so far as it is express in its terms, defines the right created. When the terms are not express the creation of a right of way, or the extent of it when created, may be inferred from the instrument. A lessor who, in the lease, tells his lessee that the demised premises abut on

new streets to be formed on land belonging to him, grants, by implication, to the lessee a right of way over the piece of land described as a new street.

The owner of a piece of land to which a right of way is appurtenant can, when conveying the land, transfer the right of way to the purchaser of the land ; and such a right of way does pass under a conveyance of land made since December 31st, 1881, without words of particular description. And, after much discussion, it appears now to be the law that under such a conveyance would also pass a right of way which had been suspended by reason of unity of ownership (as above explained), and a grant of a way first made and first used during unity of ownership, if it be at the time of the agreement for sale of a defined and permanent character. In other words, if I, being seized of Blackacre and Whiteacre, make a defined and permanent way through Whiteacre to Blackacre, and afterwards sell Blackacre, the way through Whiteacre passes to the grantee without words of particular description. At first sight it appears a reproach to the law that discussion on such a point should have been maintainable, but reflection will show you that the real blame lies on the parties who failed, either accidentally or designedly, to express the terms of the agreement, and thus threw upon the courts the difficulty of construing a slovenly contract.

As I have said before, the grant of a right of way may be implied from the act of the parties, and what is termed a way of necessity is a very good instance of a way acquired by implication. Such a way comes into being in this way.

Suppose my close A to be surrounded on all sides by other land of mine, and my close B to be bordered on one side by land of my neighbour, but with no access over such land, and on the other side by land of mine. If I sell either close A or B, reserving the rest of my land, the buyer

is invested by the law with a right of way over my land, to enable him to enjoy what he has bought ; if a defined road existed before the sale, giving the shortest and most direct access to the nearest highway from A, his right of way will probably be over that road ; if no defined way existed then over a way to be set out by me, subject only to this, that it must be a convenient way. But the extent of the user is limited by the necessity at the time of the grant—in other words, if close A was pasture or arable, and the road a farm road at the time of the sale, the buyer is not entitled, having covered A with houses, to compel me to allow him to make a wide metalled road in order to provide access to these houses.

I have supposed the sale of close A or B. And I have now to add that if I had kept A and B, and sold the rest of my land, I should be entitled to a similar right of way across the land, granted by the person to whom I had sold the close in question.

A way of necessity is conditional on the existence of the necessity ; if the necessity comes to an end, the right of way is extinguished. So unity of possession extinguishes a way of necessity, for the way of necessity becomes one of the ordinary rights of property ; and therefore on severance of the tenements, by sale or otherwise, the way of necessity is granted by implication, if the necessity arises.

Right of way may be acquired by prescription.

It is not possible within the limits of this Paper to deal with this origin of rights fully. It must be sufficient to say that, to establish a right of way by prescription, the person claiming must show, at least, enjoyment of the way as of right without interruption for a period of twenty years before the commencement of the action in which the right is disputed or enforced ; and the user must be continuous, and during the whole of the statutory term sufficient to

carry to the mind of a reasonable person who is in possession of the servient tenement that a continuous right is being asserted, and ought to be resisted if such right be not recognised, and the right claimed must be such as could lawfully and in fact have been granted by the owner of the servient tenement.

But assuming evidence to be forthcoming which will establish a right of way by prescription, the extent of the right of way has further to be established. Is it a right of way to church or to market, or for passers on foot or in carriages or on horseback, or a drift way for cattle, or a way for driving pigs or horses, or a way for the parson to bring home his tithes, or for any other of the wants of human society? As the claim is for a way by prescription, it follows that the person claiming the way has no deed on which to base his claim, and therefore he must establish his case by showing the mode and extent of the user of the way during at least the previous 20 years, and the condition of the dominant tenement in respect of which the claim is made at the time at which his evidence shows the user began. The condition of this tenement at this time is very important, for, in ordinary cases, the right of way must be limited to purposes consistent with the ordinary use of the tenement in the state it then was. Then, if the tenement was a field in the country, and used for rustic purposes, the right can only be to use the way for the field in its ordinary use as a field: there may be a right to carry building materials for the repair of farm buildings, but there can be none to carry materials wherewith to cover the field with houses, or to supply a factory which has been built since the beginning of the user. Evidence of user for one purpose is not proof of a right of user for all purposes—thus, user of a way as a carriageway does not prove a right exists to use the way as a drift way, nor a user by driving

pigs a right to drive horned cattle ; in short, if a right of way has been acquired by prescription, its extent must be measured and determined by the accustomed user ; and this rule applies in respect of the breadth of the way and the hours or days during which it is open to use.

The like principle determines the width of the road which the dominant owner can claim ; as we have seen, in a public right of way, the public are entitled to use every inch between the lateral boundaries of the road ; but the dominant owner of a private way is only entitled to pass with the convenience to which he has been accustomed in the execution of his accustomed purpose : he is therefore entitled only to so much of the centre of the way which is necessary for his passage ; if, therefore, the private way lie along the line of a private road, the dominant owner cannot complain if the servient owner narrow or widen the private road, provided no obstruction is thereby created to the accustomed use by the dominant owner.

A private right of way and a public right of way may be acquired by user—though the Prescription Act, 2 & 3 Will. IV., c. 71, does not apply to the acquisition of public rights of way—and the acquiring of a right of way by the public does not destroy a previously existing private way over the same line : but the private right of way must be previously existing : the existence of a private way cannot be proved by proof of the existence of a public way : nor can a private way be gained by prescription over a public road. Therefore an action for obstruction of a private way may be defeated by showing that a public right of way existed before the alleged private way came into existence.

As has been stated above, it is of the essence of a private right of way that it should flow from a dominant tenement : now suppose the dominant tenement to be divided, as in the case of a field sold in freehold building lots, the question

arises is the owner of each one of those lots entitled for himself and his servants to the exercise of the entire right enjoyed by the owner of the field, before it was so divided. It is obvious that if the answer be in the affirmative, a greater burden than theretofore is imposed on the servient estate, and imposed not at the will of the servient but of the dominant owner. Yet the law is clear that, where there is a grant of a way to the owners or owner of certain lands (without qualifying words), the grant is severed with the lands—that is, it goes with each part of the severed lands. But this must be taken subject to this exception: in the case of a grant the deed may contain words which will qualify the grant: and in the case of a prescriptive right of way the existence of such an added burden might be inconsistent with the condition of the servient tenement or the user proved: in either of such cases the inference might be that the right did not pass when the dominant tenement was served: and the circumstance that the distribution of the right would materially increase the burden on the servient tenement would be a very strong reason for inferring that such a distributed right did not exist.

A right of way by Act of Parliament, in addition to characteristics of its own, has some of belonging to public ways and some to private way. Take, as an instance, a railway, and compare its characteristics with those I have before detailed. The owners of land in the direction the railway is authorised to run are forced, by Act of Parliament, to grant to the railway company so much of the surface of their land as is necessary for the purposes of the railway, *i.e.*, for the purpose (*inter alia*) of placing rails thereon, and of either allowing all persons to use the line with carriages and engines, on payment of tolls, or of carrying all persons from any one station on the railway to any other station at any subsequent time, on any extension of

the railway. The company have sufficient interest in the surface to keep off trespassers, but that interest is subject to the greater interest of the owner of the stratum of soil below that on which the rails are laid. The company can use for passage the whole of the surface of the land between their fences, but they cannot grant a right of way on any of such surface, except for the purposes of their Act.

In ways acquired by Act of Parliament, rights may be given by implication as well as in the case of ways by grant. Thus, a Canal Act, which gave power to mineowners to make any railways or roads over the intermediate land of strangers from the mines to the canal, was held to authorise the making of such railways as from time to time should be found necessary, and the use of locomotives thereon, though these were unknown when the Act was passed.

The extent and user of a right of way, if it has its origin in grant, must be determined by the words of the grant, if in an Act of Parliament by the words of the Act, and if in prescription by the accustomed user of the right. It may be a general right of way for all purposes, or a limited right, as for carriages and not for carts, for horses only, or a footway only, or limited as to times of user, or a right subject to the user of the same ground by the grantor or other persons. Proof by evidence that a way has been used for several purposes is a ground for inferring that there is a right of way for all purposes; but from evidence of a user for one purpose, or for particular purposes only, the inference of a general right cannot be presumed.

A good instance of the limitation of user by the terms of the grant is to be found in the class of decisions on way-leaves. For instance, the grant of a free and convenient way for the purpose of carrying (*inter alia*) coals authorised the grantee to build arches and make embankments in order to keep the way level, and to lay on the way a "framed

waggon way," because the Court found that that was the ordinary and most convenient way in which coal could be carried. But the reservation of a piece of land as and for a waggon or cart way of the width of eighteen feet did authorise the person reserving it to lay a rail or tramway thereon for the purpose of carrying coals.

Let me, in conclusion, give some practical advice to a class which, I trust, is not without its representatives in this distinguished audience. My labour and your time has been wasted this evening if you have not discovered how much we owe to that much-maligned class, the "habitual trespasser." Consider that all prescriptive footpaths had, in truth, their origin in repeated acts of trespass committed by persons of this class; reflect what England would be like if by a country walk were meant a tramp only on the high road; and, I may add, bear in mind what you, in your turn, owe to posterity.

It may be your actions and your intentions may be misunderstood by the owner of the soil, and your footsteps arrested by one of his myrmidons. Let me tell you how to act. Tender one shilling as amends for any damage you may have unwittingly done, and ask to be shown the nearest way to the nearest public way. The owner has no right to compel you to commit fresh trespasses by retracing your steps, if that be not the nearest way, and a firm adherence to your rights in this respect may, after all, land you where you would be, and, perhaps, lay the foundation of another benefit to posterity.

Mr. WILLIAM WRIGHT (Fellow), in moving a vote of thanks to Mr. WALKER for his Paper, said he felt sure that country Members, when they read it in the "Transactions," would regret that they had not been present on that occasion. As a country practitioner himself,

he found the subject most interesting as affecting interests between one estate and another, and his somewhat extensive experience did not enable him to indicate any single point which Mr. WALKER had omitted to deal with in his valuable and exhaustive treatment of a very complex subject.

Mr. G. M. FREEMAN (Associate), after seconding the vote of thanks, said the Paper was, without doubt, a most complete epitome of the abstract principles of law applying to rights of way, and with regard to the earlier part of the Paper he was unable to offer any criticism, knowing, as he did, that Mr. WALKER had the very widest possible acquaintance with this subject; but he might, perhaps, venture to say a few words bearing more especially upon the latter part.

Upon the main points dealt with his remarks must be considered as supplemental rather than critical. He noted that the writer had avoided the imprudence of which most lawyers were guilty. He had not quoted a single case, and therefore had not put Members to the trouble of going to the Library and looking up references, only to find, as too frequently happened, that the cases had been wrongly quoted.

One point noticed by Mr. WALKER was that "a person, "not the owner of the soil on either side of a high road, is "not entitled to stand on the high road for the purpose of "shooting the game that may chance to fly across the "road"; but he had not mentioned the somewhat peculiar position of a person who stood on the highway for the purpose of preventing the owner of the land on either side duly exercising his right of shooting game. That was a case which had given rise to some difficulties, both physically

and legally: physically by the occasional penetration of shot which was meant for the game into the body of the obstructive visitor, much to his discomfort; and legally, by the employing of counsel in arguing with great zeal, and before successive courts, that the person who was shot was entirely within his right in standing to be so shot, the result generally being that the person who was so shot had to pay the costs occasioned by his being so shot.

On the question of rights of way as affecting bodies representing the public, Mr. WALKER had said:—"The law assumes that a depth or thickness of soil has been dedicated sufficient to enable the public (or the authority representing them) to do what is necessary for the road." That was, no doubt, perfectly true, and had been well illustrated recently in cases where roads had been interfered with for railway and other purposes in the Metropolis; but it must be guarded by this limitation, that the public authority could only grant the right for what was strictly within its own powers; and if it diverged one inch beyond that—for instance, by giving leave to lay a telephone wire—the unfortunate person relying on such an authority might find himself held liable for damages.

Then, with regard to the question of private rights of way, no doubt the Paper stated the legal position most correctly; but very often the matter became much more complicated. For instance, suppose two persons, each having a private right of way over a part of the road, one of them repairing up to a certain portion, and beyond that having no interest; then the rights of the owner of the second section of that private way were often very difficult to determine. That was a practical question upon which surveyors frequently had to advise their clients. Suppose a private right of way going to a mill, and beyond that another private right of way extending up to a house. The

mill used its road very hardly indeed, by carrying heavy traffic over it, and leaving it almost unfit for the private carriages going up to the house ; and moreover, obstruction was frequently caused by carts standing on a portion of the road opposite to the mill. The exact position of the parties in such a case was often very difficult to determine. The millowner had an undoubted right to use the private way up to his mill for the carrying of his heavy traffic ; but was the owner of the land beyond entitled to call on the millowner to keep his portion in such a state of repair as not to be dangerous to carriages going up to the private house ? Any prudent surveyor advising a client with respect to the purchase of an estate under such circumstances, should take very great care that the rights of the parties were most carefully defined. If the matter were further complicated by the fact that the public generally had a right of footpath over either or both roads, a charmingly complex problem was presented.

On the question of private rights of way, Mr. WALKER had truly said that the grant of the private user was limited to the nature of the user at the time the grant was made. Having regard to the enormous importance which that question assumed in cases of compensation for lands taken, over which such rights existed, surveyors could not be too careful, either in the interests of the vendor to see that the right was strictly limited, or in the interests of a purchaser of land which, although now agricultural, had building prospects, to secure the user of the right of way in accordance with the developments anticipated.

Again, take the case of a private right of way across an estate. All practical men knew the enormous effect on the value of an estate which might result from the sudden discovery that there existed a hitherto totally forgotten right of way which, perhaps, no one had exercised for many



years, except a few women going to their cottages. Yet such a right of way might lead close under the windows of a large private house. Instances had occurred where the value of property had been very considerably depreciated by the discovery of some extraordinary but forgotten right of this kind. This shewed how important it was that a surveyor, acting for the purchaser of an estate, should, by all means in his power, guard his client's interests against the possibility that any of these subtle rights of way existed.

With regard to right of way by Act of Parliament, the principle laid down in the Paper, and the illustration given, failed to carry conviction to his (Mr. FREEMAN'S) mind. He could not see how it could be said that a railway company acquired a right of way. A railway company about to lay its line bought the land out and out, with but one restriction. It possessed powers beyond any conferred by a right of way. It might build embankments, or make archways; it might carry its line 50 or 100 feet over the land, or sink it in a deep tunnel. The sole restriction was that, unless there were express words to that effect, the company did not buy the minerals underneath. Obviously that was a sensible restriction, because a railway company might, on purchasing a strip of land, cut a valuable bed of minerals in half and do enormous damage; or, on the other hand, a mineowner might blackmail the company into buying mines which they did not require. What was given was not a mere right of way in the ordinary acceptation of the term, but a Parliamentary right to construct certain works on lands which the company bought out and out, subject only to the restriction as to minerals.

Coming to the concluding portion of the Paper, he regarded the statements of the author with unspeakable alarm. It was stated that all prescriptive footpaths had their origin

in repeated acts of trespass, and the author urged his audience, in the interests of posterity, to pursue a boundless campaign of trespass. That was a most astounding statement for a historical lawyer to make. Suppose the 10,000 able practical surveyors in the country all went on marauding expeditions to discover unknown footpaths across private estates! Mr. WALKER recommended that if such an action were "misunderstood" by the owner of the soil, the trespasser should tender one shilling, and ask to be shewn the way to the nearest public way. If he (Mr. FREEMAN) happened to be the owner, he would certainly accept the shilling as the only solid satisfaction he would get, and then would shew the trespasser to the nearest police station. This was, he was afraid, another instance of the value of the "Every man his own lawyer" style of advice, and if all there present were to act upon it, the author would deserve the maledictions of the incarcerated surveyors and the thanks of the whole legal profession for having put in their way an amount of business they had never pictured in their wildest dreams.

Mr. S. B. SAUNDERS (Professional Associate) could not agree with the observation of the previous speaker as to there being any advantage in omitting the references to the cases relied upon. Surveyors liked to be thorough in all they did, and if references had been given they would have had pleasure as well as profit in following up and perusing some of the cases supporting the conclusions Mr. WALKER had arrived at. The Paper was hardly as full as it might have been, and many points which arose in practice were not referred to at all. The fact, for instance, that a right of way must be acquired openly and not by stealth, was omitted to be mentioned.

As to shooting on the highway, according to the Paper the theory of dedication was the one involved ; but he had always understood that the reason why the public could not shoot on the highway was that the ownership of the soil was vested in the abutting proprietors, and extended in each case to the middle line of the road, and that such owners had proprietary rights in the game straying or passing over the highway.

It was also stated in the Paper that "in order to carry out the purpose of the dedication, the law assumes that the owner of the soil has granted to the public the whole of the surface of the soil between the fences of the road ; the public, therefore, are entitled to the use of the whole of that space as the highway, and are not confined to the part which may be metalled or kept in order for the more convenient use of carriages or foot passengers." Was it not a fact that the adjoining owners could enclose on either side up to 15 feet from the middle line ? If that were so, it would follow that the public had no right beyond the 15-ft. limits. It was a common practice, in country places, for farmers whose fields abutted upon the road to deposit manure heaps upon the waste pieces by the side, which they would have no right to do if the words used in the Paper strictly represented the state of the law.

Originally the strips of waste on the sides of the road were left for the passage of the public, to prevent them from exercising their common-law right of breaking through the fences, in case of the highway becoming foundrous.

Some reference also ought to have been given to a case involving the right to plough up the footpath, for it seemed to him the ploughing up might constitute an interference not consistent with the original grant. There was reason for supposing, moreover, that such a proceeding would be illegal, because it had been established that, although a

servient owner was not bound actively to facilitate enjoyment, he must not do anything which would impede it. The ploughing would undoubtedly impede the user.

It was said in the Paper:—"A way of necessity is conditional on the existence of the necessity; if the necessity comes to an end the right of way is extinguished." That was so, but mere non-user was not sufficient to destroy a right of way acquired by prescription (see *Seaman v. Vawdry*, where there had been non-user for 106 years). On the other hand, non-user, if implying an intention of abandonment, was not required to continue for any definite length of time. It proceeded upon the theory of a release, and the destruction was complete at once.

As to the period of enjoyment the Paper omitted some essential information; twenty years was not sufficient to give an indefeasible right of way: it must be longer than that. Section 2 of the 2 & 3 William IV., c. 71, stated:—"But nevertheless such claim may be defeated in any other way by which the same is now liable to be defeated," and it had been ruled that any evidence negating the continuance was admissible. The other means of defeating a right of way were to be found in Section 7 of the Act, which provided for the exclusion, in the computation of periods, of "the time during which any person otherwise capable of resisting any claim might be under the disabilities therein named, or during which any action or suit diligently prosecuted should be pending." It would be interesting to know from Mr. WALKER whether the latter words would preclude prescription against property held by the Court of Chancery.

Then, Mr. WALKER said:—"As the claim is for a way by prescription, it follows that the person claiming the way has no deed on which to base his claim." That might be a trifling point to object to, but the conclusion Mr. WALKER

had arrived at was open to question. Every prescription presumed a grant, and a prescription would hold good only for a right which could have been granted, but it was formerly held that, if no evidence were given that the enjoyment began subsequent to 1189, it was not necessary to give any positive evidence of an actual grant.

On the question of the rights of a railway company in respect of land purchased by them, he would much like a reference to have been given to the cases on which Mr. WALKER founded his opinion. It was probably based on the most recent decisions relating to mines and minerals. One of these was that of the Midland Railway Company and the Kettering, &c., Company, appellants, and the Rev. Sir Frederick Robinson, respondent. Here the question was raised as to how far mining operations might be carried on from the surface. Under Clause 79 of the Railway Clauses Act it was held that notice might be served either for the owner or his tenant to work the minerals, and in relation to the probable subsidence of the railway, Lord HERSCHELL said :—"The learned counsel asked what the company could " be said to have acquired by the purchase of the land, if " the very surface could be interfered with by mining operations. . . . I fully feel the force of the question, and " the difficulty which it involves." But the House of Lords decided that mining operations could be carried on from the surface, and, of course, that would interfere with and let down the railway. It was, however, to be gathered from this judgment that the mining could be done from the top only, where the minerals cropped out at the surface, and not where it would be necessary to remove a considerable layer of earth before reaching them. The mines and minerals were usually purchased to save the railway from subsidence, because the common law right of adjacent support did not extend to increased burdens. But he (Mr. SAUNDERS)

contended that even this ruling would not justify the conclusion of Mr. WALKER, that the interest of a railway company in the lands acquired by them was only in the nature of a right of way. The severe limitations expressed by Vice-Chancellor MALINS some years ago, in the extraordinary case of *Norton v. London and North Western Railway*, where railway property was referred to as "limited fee simple," recognised that the railway interest was at least something more extensive than a right of way. If the ruling of the Vice-Chancellor were adopted, and sections 77, &c., of "The Railways Clauses Act, 1845," read in with it, the conclusion was arrived at that the railway interest was limited fee simple, plus the *pre-emptive* right to purchase the minerals, should occasion arise.

Mr. WHEELER, Q.C. (Associate), said he considered the Paper an extremely valuable and practical one, whether viewed from a legal or an historical standpoint.

After referring to the right to plough up a footpath, Mr. WALKER had said he would "hesitate to advise an occupier that on the same principle he might keep a "ferocious bull in a field across which the footway runs." But he (Mr. WHEELER) would go further, and strongly advise the occupier not to keep any bull at all there. There was a subtle meaning in that word "ferocious"; as according to English law the owner was not supposed to know that an animal was ferocious until at least one case of mischief had occurred.

Further on, Mr. WALKER said:—"So a right of way "below high-water mark is taken subject to the tide; and "the fact that high tide has overflowed the path gives no "right to deviate on to the higher or drier cliff." He (Mr. WHEELER) assumed that that referred not merely

to the shore of the sea, but to the shore bounding any public navigable water within the flux and reflux of the tide. He remembered a singular case bearing on this. A workman, on the Mersey, close to Egremont Pier, went down to the river to swim his dog. Egremont Pier was one which was mechanically extended as the tide fell, so that steamers might come up and land passengers at any state of the tide. The pier, coming slowly down, struck the man and killed him. Compensation was claimed, and it was argued that the bank of the stream was a public highway, and that therefore the company owning the pier were bound to exercise the greatest diligence, and that view was accepted by the Court.

A case which had only been decided last week confirmed the rule that the highway could only be used for the purpose of a highway. In the case of *Harrison v. Duke of Rutland*, to which Mr. FREEMAN had referred, the plaintiff sued for damages for an assault committed on him upon the highway by the beaters to a shooting party of the Duke's. The Court of Appeal held that as the plaintiff was at the time of the assault not using the highway as a highway, but was admittedly there for the purpose of causing annoyance to the shooting party, he was a trespasser.

Mr. P. D. TUCKETT (Fellow) said that the Institution was greatly indebted to Mr. DOUGLAS WALKER and other legal Associates for taking the trouble to write excellent educational Papers upon matters about which it was desirable that surveyors should know something. But the thought occurred to him that the last paragraph must have been originally designed for some radical club rather than for a respectable law-abiding Institution. Here was a member of the inner bar inciting his audience to break the law, and

speaking of trespass as a positive virtue and a benefit to the community. He (Mr. TUCKER) had always failed to see how that which would be dishonest in the individual became honest when committed in the supposed interests of the public. He did not believe that the origin of footpaths was, in the majority of cases, wilful trespass. It was much more probable that, when the population was scanty in rural neighbourhoods, landowners and occupiers voluntarily allowed their labourers and others the use of footpaths; then, as population increased, and the land became in proximity to a large town, what was originally of no injury to anyone became an extremely injurious incident. Trespass from footpaths in the neighbourhood of large populations was a very serious detriment to the rental value of land, and he considered that footpaths preservation societies and others undertook considerable responsibility in openly inciting people to such trespasses. He instanced the case of a footpath across some fields in the neighbourhood of London where enormous and utterly wanton damage was done by trespassers when a crop of grass was on the ground. Numbers of people would wander over the mowing grass, gathering buttercups and other wild flowers, and handfuls of grass, and trampling down still more, which in the aggregate largely reduced the hay crop; well-dressed ladies would wheel perambulators right across a crop of mowing grass; boys would have Sunday afternoon games in it, and would not stick at pulling down fences and making bonfires of the wood. All this was encouraged by some of the expressions used by those who advocated not only the maintenance but the extension of those public rights. This abuse of existing rights naturally produced a desire to limit them as much as possible, and it would be far more in the public interest to discourage such trespass.

This Paper would be exceedingly useful as an intro-

duction to the study of rights of way, and the author could not of course be expected to do more than record the results of settled cases. But many questions arose just where the Paper left off and doubts began. For instance, Mr. WALKER had said :—"The law assumes that the owner " of the soil has granted to the public the whole of the " surface of the soil between the fences of the road." There was a recent authority for that statement, but he should have been glad if the matter had been further elaborated. In many English counties where the land had been gradually enclosed, there were public roads through great open fields, sometimes fenced on one side only, and sometimes on neither side, and closed with gates at each fence. It surely could not be modern law to give the public a right of way over the whole of those fields.

There were other statements in the Paper which raised interesting practical points. For instance, Mr. WALKER said :—"If the dedication was for a carriageway, the public " may make and maintain a road sufficient to support the " ordinary traffic of a carriageway." Then mention was made of a right to plough up a footpath. That was in a paragraph which implied that it referred to a private right of footpath ; but he thought the case alluded to applied to a public right of footpath. Again, Mr. WALKER said :—"If A. grants me a right of way, I may enter and " repair the way." A tendency had been recently developed by local bodies to asphalt footpaths which had never previously been required by the public authority ; that was of course an expansion of the right of way, because more people probably would use the path, while it destroyed the right of the owner to the modicum of grass which grew on the footpath. It was an interesting practical question, whether it was lawful to do this without the consent of the owner.

Then there was the point that a right of way must be used for the purposes in respect of which it is reserved. A question on this point had been recently put in one of the leading professional journals. Somebody possessed a right of way over a road across a field to another field ; but he bought a great quantity of additional land adjoining his field, and used the roadway to the further land as well as to his first field. The question was whether he had a right to do that ; and it did not seem very clear from this Paper how it should be answered.

Again, Mr. WALKER said :—" If I, being seized of " Blackacre and Whiteacre, make a defined and permanent " way through Whiteacre to Blackacre, and afterwards sell " Blackacre, the way through Whiteacre passes to the " grantee without words of particular description." If Blackacre were sold to a stranger, and that were his only way to it, it could not be otherwise, but he had quite recently met with a question which might be thus expressed :—Westacre belonged to one man, Eastacre to another ; each had frontage to a different road ; Middleacre was between them and belonged to the owner of Westacre, over which he had always gone to it. He sold Middleacre to the owner of Eastacre, which adjoined it, and to which there was another road, without expressly granting him any right of way or easement. Had he implied a way over his own Westacre to the other man's land by doing so ?

Mr. DOUGLAS WALKER, in reply, said it was needless to remark that the object of the writer of a Paper like his own was to confine himself as far as he could to the law as ascertained, and not to put himself forward as answering all the possible conundrums which could be suggested by the incidents of a surveyor's practice. Each case must depend

upon its own circumstances, and nothing was more delusive than to conjecture what might be the decision of the Courts in any given case unless one was quite sure of the facts. For that reason he had confined himself to propositions which he understood to have been thoroughly settled by the Courts. Notwithstanding the criticism to which the Paper had been subjected, he stood by all he had written. Exception had been taken to the wording of some of his propositions, as, for instance, to the statement that "the law assumes that the owner of the soil has granted to the public the whole of the surface of the soil between the fences of the road"; and it was asked, "Assuming a public road going across what was practically a large open field, was it to be taken that the fences of the field were the fences of the road?" He would say certainly not, and he had confined himself to the proposition that the whole of the surface of the soil between the fences of the road was for the use of the public. Nobody would suggest that the fences in the field in the case put could be considered the fences of the road within the meaning of the proposition laid down in the Paper.

Exception had been taken by Mr. SAUNDERS to his statement that, "as the claim is for a way by prescription, it follows that the person claiming the way has no deed." The fact was that where there was a way of prescription there could be no deed. According to the law of this country a way could be gained by prescription only upon proof of a user of the way, dating back to the reign of King RICHARD III.; and the Judges by a legal fiction told juries that, if they found a way had been used habitually by people passing and repassing in different parts, they might assume that a deed had been entered into at some time or other by the owner of the soil, in favour of the public,

granting that right of way, though there was no existing evidence of any such deed.

Something had been said about his having stretched analogy too far in the case of railway companies. Railway Acts were originally founded entirely on the old deeds by which wayleaves were given, as in the north of England to carry coals to and from collieries, to canals, or to sea. These wayleaves were spoken of as rights of way, and were granted as rights of way under those particular deeds. When the Railway Acts were drawn up and passed, they were conceived on the basis of those old deeds, and many of the incidents of a right of way still attached to the rights which the railway companies now possess.

It had been suggested by Mr. SAUNDERS that the railway companies held the land in fee simple, and could therefore give any person they choose a right of way, or any other right. But the railway companies had not such powers; they were expressly limited by the terms of their Acts of Parliament, and could give no person a right of way across the railway except for the purposes of the railway.

He had been taken to task severely for the expression of his opinion, in the last paragraph of the Paper, about trespassing. Unless it were maintained that, in every case in which a right of way existed, the person first using that right of way had passed over the land by the leave of the owner, a trespass must have been committed. The very case mentioned of labourers going to their work along a footpath because it was the shortest way indicated that, in the first instance, no consent was, in all probability, given. It was perfectly correct to say that, in its initiation, a right of way by prescription must always have had its origin in trespass.

There were instances familiar to all of the use, or rather

abuse, of rights of way about London, but in his Paper he had only referred to what he considered the proper use of rights of way.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

SANITARY VENTILATION.

BY EDWARD TIDMAN (FELLOW).

*Read at the Ordinary General Meeting of THE SURVEYORS'
INSTITUTION, Monday, December 19th, 1892.*

CHAS. J. SHOPPEE (PRESIDENT) IN THE CHAIR.

THE science of sanitary ventilation is one that can scarcely be exhausted in the limits of a Paper such as that submitted to you this evening, and it will be impossible to touch upon all the branches of this wide and important subject. It is therefore proposed only to deal with the ventilation of "buildings," "sewers," and "house drains."

Living as we do at the bottom of a vast aerial ocean, acted upon by every difference in pressure or temperature, this vast ocean of air is practically of the same constitution in the open, but where confined, as in dwellings, sewers, and drains, it rapidly becomes impure from various causes:—

1. From the discharge of carbonic acid from the lungs.
2. By organic matter from the body and breath.
3. By carbonic acid and other matters produced by combustion.
4. By dust and floating impurities in the air.

In dwellings, workshops, and public buildings it should be our aim so to renew, circulate, and dilute the foul air as to keep ourselves surrounded with as pure air as possible, our great aim being to get good ventilation without draught, and to do this various matters have to be taken into account; amongst them, "cubic space," "inlet" and "outlet" openings and their capacity, "differences in temperature,"

the "number" of inmates, the "amount" of moisture and carbonic acid in the air, and the "rate" of movement.

In sewer and drain ventilation the main object is very much the same, *i.e.*, to secure by circulation as pure air as possible within sewers and drains, and that the foul air from them shall be discharged at the points least dangerous to human and animal life.

Natural ventilation may be described as that proceeding from natural causes, and may arise from "diffusion," "external air currents," "winds," and "unequal atmospheric pressure."

Every extra degree of heat dilates the air to the extent of $\frac{1}{401}$ part of its volume; hence it is that cold air rushes into a warm room, and that the warm air, having become lighter, escapes, and by the continual change going on naturally the cold air rushes in and takes its place.

Experience confirms the fact that the highest degree of health is only attainable when to other necessary conditions is added a proper and sufficient supply of pure air.

The average mortality of this country increases or decreases according to the density of the population; the increase being mainly due to over-crowding and deficiency of cleanliness. But with pure air, cleanliness, and perfect removal of excreta there is little danger from over-crowding.

Impure air has a very powerful effect upon animals as well as upon human beings. A case in point may be mentioned with regard to horses. It is stated that among cavalry horses, where the death rate was 180 to 197 per 1,000 per annum in old insanitary buildings, after rebuilding and providing increased room and "rations" of *pure air*, the death rate in the following 10 years, under these improved conditions, was reduced to 68 and eventually to 28·50.

Stables are constantly found in such a state of defective

sanitation that they are absolutely dangerous to the health of both men and animals; the drains are within the stables with the old bell trap fittings, without interception from sewer air and with no ventilation. Probably 75 per cent. of town stables are in this condition, and undoubtedly the recent epidemics of "glanders" and "farcy" are attributable to the bad sanitary conditions of the stables in which the affected animals were housed.

But to return to air impurities. In wet weather the air is purer than in dry, owing to the rain washing down the floating impurities, spores, &c., which in dry weather are suspended in the air

The gaseous matters found in air are:—

Carbon,
Sulphur,
Chlorine,
Nitrogen,
Phosphorus, &c.

Air is much vitiated by respiration. An adult man in repose gives off in 24 hours 12 to 16 cubic feet or more (according to his bulk) of "carbon dioxide," most of it from the lungs. By the skin and lungs we pass off from 25 to 40 ounces of water in 24 hours. To maintain this in a state of vapour requires 211 cubic feet of air per hour on the average, modified, of course, by the temperature and the condition of the air. The air is vitiated by combustion, the products of firing passing out into the air, but the products of combustion by lamps, gas, candles, and most other means of lighting usually diffuse into the room.

One cubic foot of coal gas will destroy the entire oxygen of about 8 cubic feet of air, and will raise the temperature of 31,290 cubic feet of air 1 degree Fahrenheit.

An ordinary lamp will, burning 154 grams of oil per hour, consume the oxygen of 3.2 cubic feet of air.

Gas is generally burned in such a way that the products of combustion are diffused about the room, but this is injurious, and some proper provision should be made for removing the consumed air. There is a popular belief that the impure air in a room, being heavier than pure air, descends, and is near the floor level; but anyone who likes to try the experiment will find that, when the lighting is by gas or lamps, the consumed air is at the top of the room, and it is not possible to remain long near the ceiling in a defectively ventilated room, shewing conclusively that the consumed air is certainly in the upper part of the room.

Air is much vitiated near alkali, chemical, cement, and copper works, and the effects may be traced in the vegetation. Organic vapour is also given off by glue refineries, bone-boiling, by slaughter-houses, and knackeries, and fumes are also given off from brickyards, indiarubber and match works.

The air of towns is vitiated by respiration, combustion, effluvia from soil, sewers, house drains, and trades, but the continued movement of the air tends to dilute or remove these impurities.

The diseases caused by the impurities in the air are those affecting the respiratory and digestive organs, and include catarrhs, bronchitis, pneumonia, phthisis, and the various diseases caused by trades. Also the contagious diseases, amongst them scarlet fever, small pox, measles, typhus and enteric fever, pertussis, and influenza.

It is a generally accepted rule that 0.6 cubic feet per hour of carbonic acid is given off in the process of breathing, but where a number of men are employed 0.7 is nearer the average, and provision should be made in dealing with ventilation for this quantity. It is of course impossible to get as pure air in a room as outside, and it may be taken as a measure of purity that there should be no perceptible differ-

ence between the inside or outside as regards odour or freshness.

The following table is a safe one to maintain a healthy condition :—

Adult Males . . .	3,600	cubic feet	per hour.
„ Females . .	3,000	do.	do.
Children	2,000	do.	do.
Or in a mixed com-			
munity . . .	3,000	do.	do.

Taking this as a basis, a space of 100 cubic feet would have to be entirely changed 30 times in one hour, or if 1,000 cubic feet, three times in one hour, for an equal quantity; and, with proper means, the air of a small space can be frequently changed.

In Metropolitan lodging-houses 30 super or 6 feet by 5 feet of surface and 240 cubic feet is allowed per person.

In police houses 50 super and 450 cube.

Dormitories under Poor Law administration must have 300 cubic feet for healthy and 850 to 1,200 for sick inmates.

The Education Department require 10 feet super 13 feet high, per scholar, or 130 cubic feet.

The provision for animals should be, for horses and cows, 1,200 to 2,000 cubic feet, and a minimum floor space of 100 to 120 feet super.

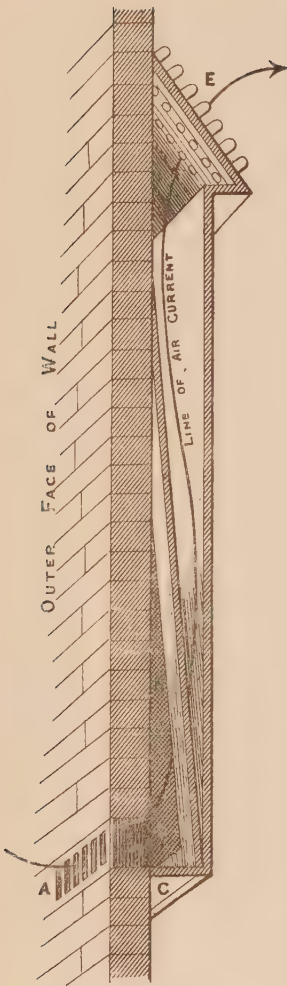
Army stables have 52 feet super per stall, or 91 if with share of passage. Army horse infirmaries 137, or 200 with passage. Loose boxes 204 super, 1,900 cubic feet per horse.

The ventilation of private dwellings is a subject which perhaps more concerns the million than public buildings do, and it is seldom that a private dwelling is ventilated in a way that is altogether satisfactory. Either there is too much

ventilation, causing the room to be too airy and not snug and comfortable as we Britishers like to be, or it is close, stuffy, and unhealthy, while, through the absence of any suitable openings, there is a draught under and around doors and windows rendering some parts of the room cold and uncomfortable. Many plans have been proposed and tried to overcome these defects, but only with limited success.

Unfortunately, as a rule, no provision is made by the ordinary builder for the air which is required to enable the fire to draw and to carry the smoke up the chimney. If a house is well built, that is, to the extent that the doors and windows fit well, and that the floor boards are laid close and tight, the chimney must smoke unless some proper provision is made, or the door or window opened for the admission of the necessary air to feed the fire, as an ordinary fire draws about 150 cubic feet per minute; and the stronger the fire the more draughty and uncomfortable the room feels. A very moderate opening in the window will remedy this and stop all irregular draughts, and a well-known and simple expedient is to have a deep bottom bead, say, four inches high. If the sash is then raised, say, three inches, it will allow the air to pass between the glass and the meeting bars and supply all that is necessary above the level of the heads of the occupants when seated. If the key-hole is tested with a lighted candle and it does not allow the flame to burn in repose, some improvement is required in another direction, and it will be found that, as a rule, the provision of an opening equal in area to the chimney pot or pots of the flue or flues in the room will be sufficient to stop all draught.

This can be done by what is called a "Tobin" tube, as constructed by the various ventilating engineers, and their name is legion. Another expedient of a similar cha-



racter can be adopted where the air outside is contaminated with smoke, smuts, or other impurities. This is shewn in the Diagram. Here the tube is larger than usual, but this provision is for the purpose of inserting a screen, which must be equal to about ten times the area of the section of the tube, and, as before observed, this tube must be equal to the area of the chimney-pot, and when fitted with a "diffuser," as shewn, it is very efficient. Several points have to be watched in constructing this ventilator. The principal are as follows:—

1. The grate in outer wall must not "throttle" the air, but must admit as much as the tube can carry.
2. The screen must be so fixed that it is conveniently removable for cleansing.
3. A slide or valve must be provided to regulate the current.

REFERENCE.

(A) Is the Grate on the outer wall to keep out birds, mice, and foreign substances, and must admit as much air as the tube it has to supply can take.

(B) Is a Screen covered with canvas or bunting, and made to slide in and out for cleansing purposes and removal of dust.

(C) Is a Door to allow Screen to be removed.

(D) Is a Valve to regulate the flow of air.

(E) Harding's Patent Diffuser.

The "Screen" is not patented.

The "diffuser," as shewn, is, I believe, "patented"; therefore cannot be used in this form except through the patentee.

VENTILATION OF HOSPITALS.

In this class of building perfect ventilation is more important than in any other. The risk of contamination of the air is greater, and foul air prevents healing, and often leads to fatal results. There should be at least 4,000 cubic feet of air, per head, per hour, in ordinary cases, and in certain cases the quantity should be unlimited. Miss NIGHTINGALE says, "All patients should be as far apart as possible."

The sick should be placed in small, detached, and perfectly ventilated buildings, and there should be no possibility of polluted air passing from one ward into another.

This is best secured by what is called the "Pavilion System." This enables the wards to be detached and prevents any outbreak being conveyed from one block to another; as far as possible windows should be opposite to each other and open to the top.

The foul air should have an outlet in the ridge, and the buildings should be of one storey, where practicable.

The walls should be of impermeable material and the w.c.'s placed in separate detached blocks and with a double lighted corridor between them and the ward for which they are provided.

PUBLIC SEWER AND HOUSE DRAIN VENTILATION.

The ventilation of public sewers is more an engineer's than a surveyor's question, but it is rather difficult to separate the ventilation of *house drains* from that of *sewers*.

We are all familiar with the surface ventilators in our

roads and streets, and the effluvia given off by them. Residents in Richmond, Norwood, and other suburban districts are no doubt familiar with the lamp-post and destructor ventilators, and all are more or less familiar with the vent pipes fixed by local authorities, where private owners will allow a gable to be used to fix them against.

With regard to the surface ventilators, these are most objectionable, and should only be constructed, if at all, where they will act as inlets, but, as the action of the wind, tides, and flood-waters practically prevents this, they should be only constructed under most exceptional circumstances.

Lamp-post ventilators are very well in their way, and are certainly better than the surface vents, and when fitted with gas burners at their base are no doubt excellent extractors, but when, from the causes before mentioned, *i.e.*, wind, air pressure from within (through water rising in the sewers), the gas is extinguished, they are very dangerous and likely to cause explosions by filling the sewers with gas, and this, coming in contact with other posts which have not had the gas extinguished, might very easily blow up the sewer. So much is this danger dreaded by the Richmond, Brentford, and other gas companies that they have declined to supply their gas for this purpose.

With regard to the public sewer vent pipes fixed against trees, house gables, and in other positions, the great fault in these is their small diameter and limited number. It is only by efficient ventilation, thorough circulation, and thorough dilution that sewer air can be rendered non-injurious, and when we come to consider the super surface and length of some of the larger sewers, it is self-evident that 4-inch and 6-inch diameter vent pipes must

be very numerous to have any satisfactory effect on the air in those sewers. Many experiments have been tried by local authorities to get over the difficulties, and through the courtesy of the chairman of the Eston Local Board, I am permitted to publish in this Paper the result of some experiments made in that district to ventilate the public sewers by means of a very powerful works chimney shaft. The following is the report on the new main outfall sewer at South Bank, in the district of the Eston Local Board.

New Main Sewer at South Bank.—This sewer was constructed by the Eston Local Board in 1889. It acts as the outfall for that portion of South Bank which is within the Eston Local Board district.

Course of Sewer.—It commences at Normandy Road and ends at a point close to the south side of the North Eastern Railway, near the Eston old railway station, where it is connected to the old main sewer which runs under the North Eastern Railway and passes the South Bank Iron Works, to a point on the foreshore, near to the Cleveland Salt Works, and finally discharges into the estuary of the river Tees by an open water-course.

Description of Sewer.—The length and diameter of this main sewer is as follows, viz. :—

12 yards lineal	.	.	3-foot brick sewer.
220	„	.	2- „ „
768	„	.	18-inch sanitary pipes.

It is laid in perfectly straight lines, and has a uniform gradient of 1 in 483, and has properly constructed man-holes fitted with penstocks and valves for flushing purposes.

Ventilation.—The system adopted for ventilation, is by means of an open cast-iron ventilating cover, fixed over each manhole at the level of surface of the road. There

are 12 of these manholes fixed at a distance of about 100 yards apart.

Tributary Sewers.—At No. 4 manhole there are two tributary old sewers connected to the new main sewer, viz. :—

(a) The “Branch” Sewer.

(b) “Bolckow Terrace” Sewer.

The length of these two tributary sewers are as follows, viz. :—

The “Branch” Sewer . . . 600 yards lineal.

“Bolckow Terrace” Sewer . . . 986 „

These sewers were laid about 24 years ago.

The “Branch” Sewer is only short in length, and has no proper system of ventilation. The “Bolckow Terrace” Sewer has a ventilator at its highest point, and also two other ventilators in the fields at the north and south sides of “Cleveland House.”

Escape of Sewer Air.—For some time past complaints have been made owing to the escape of sewer air from some of the manholes, and especially from the ventilator at No. 4 manhole, where the tributary sewers join the new main sewer. This being so, it was reported to the Board, and they decided to take steps to abate the nuisance complained of. Upon the recommendation of the chairman, who suggested to utilise the tall chimney stack in connection with the extensive range of boilers at the Cleveland Works, they instructed their surveyor to lay a line of 12-inch pipes from the nearest manhole (which is 66 yards distant) to the base of the chimney stack. These pipes were connected to a valve which, in turn, was connected to the tall chimney at a point about 3 feet below the surface level.

Chimney Stack.—This chimney stack is 220 feet in height, and is 14 feet and 11½ feet in internal diameter at its base and top respectively, and its draught (which is

continuous all the year round) is equal to a pressure of 2 inches as recorded by the water gauge from actual tests. The average temperature at its base, taken by a pyrometer, was 475° Fahr. The velocity, registered by an air meter, at the point of connection, after several tests, gave an average of 2,049 feet per minute.

As soon as the connection was made between the sewer and the chimney, the whole of the open surface ventilators referred to, were then sealed by means of circular steel discs $\frac{1}{4}$ inch in thickness, which were fixed immediately beneath the cover.

Tests taken by Air Meter.—Since the connection was made to the chimney stack, a series of tests have been made (extending from 28th October to the 5th November, 1890), giving the results shewn in the following table:—

No. of Man-hole.	Situation of Manhole.	Distance from tall Chimney-stack in yds. lineal.	Readings by Air Meter in feet, per minute.		Average Readings.		Remarks.
			Cover off.	Sealed.	Cover off.	Sealed.	
1	Near Eston Old Railway Station	236	106 81 132 126	168 180	148	174	Junction of new sewer with old sewer.
2	Near Cleveland Hotel, Eston ..	166	100 94 126 137	160 112	152	136	
3	On road south side Eston Branch Railway	66	1,023 1,108 1,300 1,150 1,150 1,315	1,262 1,165 1,574 1,574 1,574	1,174	1,394	The chimney-stack is connected with this manhole with 12-in. pipes.
4	In garden east side cricket ground	128	263 273 249 231	212 244 204 201	206 151	235 178	The "Branch and Bolckow Terrace Sewers" join Main Sewer at manhole.
5	On private road near Cleveland Villas	215	72 81 58 58 95	47 80 64	73	64	

Situation of Manhole.	Distance from tall Chimney-stack in yds. lineal.	Readings by Air Meter in feet, per minute.			Average Readings.		Remarks.
		Cover off.		Sealed.	Cover off.	Sealed.	
Near Junction Schools in Middlesbro' Road...	323	25 11 44 5 15	10 27 53 63	48 14 21	28	28	
East end Stapylton Villas in Middlesbro' Road...	431	26 27 28 42 18		51 47	28	49	
Clay Lane Bridge, Middlesbro' Road	531	17 2 2		8 12 4 30	7	18	
Near public urinal in Middlesbro' Road	631	2 2 4 40 9		2 30	11	16	
Opposite Peel St., Middlesbro' Road	731	2 2 2 6 3		2 3	5	2½	
Opposite Codd St., Middlesbro' Road	811	2 13 15 4		2 1	8½	1½	
Opposite Miles St., Middlesbro' Road	890	0 23 43 64			32½		At high end of sewer this ventilating cover is not sealed.
At outfall on fore-shore.....	482	214 309 267 106 310 386			265		Subject to be covered at high tides. Open end, no flap.
Manhole, north side Cleveland House		3½		2	3½	2	
At high end of Bolckow Terrace Sewer	986	0		0	0	0	

From the above table it will be observed that the velocities vary considerably according to the distance from the chimney.

Outfall liable to be tide-locked.—It should be stated that the outfall on the foreshore is liable to be covered at times by the tide of the river Tees, the effect of which was to force the sewer air upward in the sewer, causing it to escape through the open ventilators into the atmosphere at the street level. This is one of the greatest objections to the system of open surface level ventilators in low-lying districts, such as South Bank and Middlesbrough, where the sewer outlets are more or less tide-locked.

Responsibility of Local Authorities.—Section 19, of the Public Health Act, 1875, insists that every local authority shall cause the sewers belonging to them to be constructed, covered, ventilated, and kept so as not to be a nuisance or injurious to health, and to be properly cleansed and emptied.

It follows, therefore, that local authorities are bound to ventilate their sewers so as not to be a nuisance or injurious to health, and this being so, several methods of ventilation during recent years have been introduced. Notwithstanding all that has been attempted, it still goes without saying that the ventilation of some of the sewers in the most populous districts in Cleveland are far from being what the Public Health Act, 1875, demands.

Composition of Atmospheric Air.—

79·00 Nitrogen.

20·96 Oxygen.

.04 Carbonic Acid.

Traces of Azote, Ammonia, Nitrates, &c.

A Typical Analysis of Sewer Gas.—

Nitrogen . . .	79·0 to 80·0	per cent.
Oxygen . . .	20·0 „ 18·0	„
Carbonic Acid . .	·2 „ ·75	„

Ammonia . . .	trace to	·05	per cent.
Marsh Gas . . .	„ „	·05	„
Sulphuretted Hydrogen . . .	„ „	·25	„

Composition of Gas emitted from Chimney.—

Nitrogen	74·35
Carbonic Oxide	Nil.
Hydrogen	Nil.
Carbonic Acid	25·65
Oxygen	Nil.

Therefore it appears from the experience of this Board to be a great advantage where sanitary authorities can do so to ventilate their sewers into large chimney stacks containing rarefied air.

I was much struck to find, in reading the reports of the death rate at East Grinstead, that in 1890 it was only 8·40 in the 1,000, and when visiting the district some time ago an opportunity was taken to ascertain the condition of the sewers and house drains, and the system in use in the district, and by the courtesy of the surveyor, Mr. W. W. GALE, I now venture to place before you some interesting facts in connection with it.

The medical officer's report, 31st December, 1891, gives the death rate at 10·80 per 1,000 living; the mortality of children under one year being only 5·80 per cent. of those born.

The deaths from typhoid, scarlet fever, and diphtheria were *nil*. From zymotic diseases, 7; of which, 6 were from whooping cough.

The death rate for the past three years was as under :—

1888-9 . . .	11·00	per 1,000.
1889-90 . . .	8·40	„
1890-91 . . .	10·80	„

—an average for the three years of 10·10, a remarkably low mortality, and due, to a great extent, to the excellence of the sewer and drain ventilation, and general satisfactory sanitary arrangements.

East Grinstead is by no means a *finished* town. During the past four years over 200 houses have been built, and it is the rule that no builder is allowed to insert a trap in his house drain unless he place a 4-inch vent pipe on the sewer side of the trap, so that each house does its share of sewer ventilation. There is also a 4-inch ventilating pipe placed at the highest point in the house drain, in addition to a 4-inch ventilator to each soil pipe carried up 3 feet above the highest window. By this means there never is any really foul air in the sewers and house drains, and a constant circulation is kept up, whereby the air is so diluted that it is practically harmless, and hundreds of lives are preserved that under certain other conditions would have been sacrificed.

There are many advocates for the system of no interceptor traps amongst town surveyors, to whom the ventilation of sewers is a difficulty, but the system of "isolation," as well as "ventilation," is an essential principle in good sanitation; hence the plan of fixing interceptors on the sewer side of the first house connection is certainly the proper one; the drains within this being ventilated throughout their entire length by not less than two 4-inch diam. openings, and additional provision being made to ventilate any dead ends more than 10 feet from a drain with air circulation. But most probably the East Grinstead plan of every householder doing his share of the ventilation of the town sewers is the proper one, and that most likely to be adopted more generally in the future, as by this means, and this means only, can the sewers be made harmless.

Experiments were made at Chelsea with two 12-inch and

one 15-inch shafts, 31, 32, and 22 feet high above street level respectively, which shewed that the air was changed every $31\frac{1}{2}$ minutes during 44 days, and that the beneficial effect of the fresh air admitted was felt at a distance of 200 feet, and no complaint was made that any offensive smell was given off by the outlet.

The system adopted at East Grinstead has also been used in America with success. At Memphis every householder's drain connected to the sewer has to have fixed a 4-inch pipe as sewer ventilator. The author's experience of house drains is very much that of Mr. ROGERS FIELD, who says:—
 “If sewers are properly constructed, properly flushed, and
 “properly ventilated, you will practically have no appreciable
 “smell from them, and the result of making the whole
 “drainage system of a house self-cleansing, is that you no
 “longer generate foul gases, and vent pipes do not send forth
 “foul emanations.”

The action of air in pipes is very imperfectly understood. Syphonage of traps is now being more considered, and with efficient ventilation need never occur. The wind has a great effect on the air in pipes, and the point from which it blows affects the inlets and outlets very considerably. Rain-water pipes should not be used as vents, the only cases where this is permissible is where they are tight-jointed and away from any windows, or eaves of roofs, as in some cases, although they may be inlets, yet, under certain other conditions, they become outlets, and are thereby liable to be dangerous at the time the drains are most charged with water and want outlet ventilation, the water falling down the rain-water pipe preventing or retarding the escape of the foul air.

With regard to the action of air in pipes, there seems great diversity of opinion and practice in fixing the size and capacity of vent pipes. The old system was to bottle up all

drains and soil pipes, and make no provision whatever for the escape of the gases or foul air generated in them, the result being that the foul air escaped through defective joints, and through the traps and defective connections in dangerous positions. One-inch zinc vents, let into the bend of soil pipes, was the first step towards ventilation of private drains and soil pipes, and these small vents were frequently let into the soil-pipe bend with a slip joint, puttied on the outside, and taken up in a zig-zag course, and with numerous bends somewhere under or around the eave gutter, and closed as much as possible by a cap.

This size seems to have gradually increased until the full bore of the soil pipe was attained, and this, in my humble opinion, is the very least diameter that should be allowed; and, when it is considered that taking an ordinary town-house with, what is a very common length of drain, say 50 feet of 6-in. and 70 feet of 4-in., it will be seen that the inside of this drain (without allowing anything for the soil pipe) is equal to a superficial or surface area of a square of at least 12 feet, or 144 super feet. The fouled air generated by or given off from this surface, in the process of decomposition, would certainly require a 4-in. pipe to escape through, even when there was some force behind it to drive it off; and this illustration will shew how necessary it is to have ample vent pipes and thorough circulation within them, to continuously and effectually remove the foul air and keep up an uninterrupted flow.

It is regrettable that there is not more uniformity of practice in fixing the size of the vent pipes, for even now, in large modern houses within a few miles of London, in a "cesspool town," the author has found instances where a 1-inch wrought iron gas-tube has been considered sufficient to ventilate two large cesspools, the drains, and the soil pipes, and this, too, without an inlet of any description.

Where cesspools exist, they should be trapped off from the house drain close to the cesspool, and a separate inlet and outlet provided for both sides of the trap.

It is said that water falling from a height, as down a soil pipe, will not syphon a trap or traps in its course ; but this is a fallacy easily proved by a glass model, such as that now very generally used to illustrate the syphonage of traps and other actions of air and water in pipes. If a couple of gallons of water is discharged down a 4-inch soil pipe, 2, 3, or 4 stories from the ground line, where there is no provision to counteract the action, the interceptor trap is emptied almost the moment the water enters the pipe through the pressure of the column of air in the pipes being driven before the discharge, and, the water having passed, the vacuum produced is immediately filled with air drawn from a trap or vent behind the point of discharge.

This shews the absolute importance of an air outlet in the direction of the flow as well as behind it, and that the most perfect system must be that in which two high open vent pipes are provided, one at each extremity of the point of entry and discharge. Where there is more than one closet on a soil pipe, an "anti-syphonage" or "bypass" is not only an improvement but a necessity. This should be at least 2 inches in internal diameter, and connected into each soil-pipe branch, and eventually into the soil pipe above the top closet connection.

A great number of the "flats," now so popular, and no doubt increasing in large towns, are often very defective in ventilation, particularly with regard to the inner "areas" formed to meet the requirement that w.c.'s should be next external walls and soil pipes outside them. Too frequently these inner areas are without any opening at the bottom. The result is that the air is, as it were, in a bottle with the cork out, and this arrangement prevents the proper change

of air and thorough ventilation that is absolutely indispensable to produce a healthy condition.

It should be a *sine qua non* that in all such areas there should be for "inlet" an opening or openings at least equal in area to the "outlet" at the top, and this always open.

Another great disadvantage of high buildings of this class is that so much of their curtilage is without any sunlight, which, after pure air, is an essential of healthy surroundings.

There is such a diversity of opinion and practice in the profession as to the proper and most effective system of ventilation and sanitation, that clients are bewildered, and they naturally say, "Where doctors differ who shall decide." I therefore hope that the few points raised in this Paper may be the means of eliciting a discussion which may have the effect of promoting, to however limited an extent, the very desirable object, "uniformity of practice" in ventilating and sanitary work. If such is the result my labour will be well rewarded.

Professor H. ROBINSON (Fellow), in proposing a vote of thanks to the writer of the Paper, could not help owning that he felt a little disappointed with the Paper, which did not seem to him to sufficiently grasp the points indicated by its title. The last paragraph contained the words, "There is such a diversity of opinion and practice in the profession as to the proper and most effective system of ventilation and sanitation, that clients are bewildered," but he could not admit that such was the case. He thought there was a very general agreement among practical men as to the principles which regulated, and the methods of construction which insured, an ideal system of sanitary work. Most of the members present were familiar with insanitary arrangements such as were shown on the diagrams, and he was a little disappointed at not seeing any suggestions from

a professional point of view, as to the methods of ventilating large and small houses; although, no doubt, the Paper contained a great deal of information which would be valuable to young members.

With reference to the remarks on the ventilation of sewers and drains, there were no details given as to the gradients and the conditions that had to be observed in order to prevent sewers and drains being offensive and producing all the evils attendant on the formation of sewer gas, which ought never to be produced at all in properly constructed sewers, as by artificial systems of flushing sewers could be cleansed by methods which were well known and now extensively adopted.

He could not say anything about the arrangements at Eston or at East Grinstead, which were referred to in the Paper, for without actual knowledge of all the conditions it would be quite impossible to suggest remedies for existing evils. The plan of Eston shewed, he thought, very short lengths of sewer—the longest being something like half a mile. But it was not in such cases that engineers found the greatest difficulties in ventilating a sewer. A shaft communicating with a sewer was a very convenient way of causing the ventilation of the sewer; but the author of the Paper said it was found that the velocity of the air from the sewer to the shaft diminished as the distance from the shaft increased, which was the difficulty in ventilating by means of a shaft as it would be found that the pull, so to speak, of the shaft was efficient only within a very short distance, and too much reliance must not be placed on connecting the sewer with a shaft where the sewer lengths were long and the area covered wide. Many present were, no doubt, familiar with the discussion at the Congress of Hygiene last year, when it was seriously contended by a small minority that there should be no ventilation to sewers

at all—that every sewer should be boxed up, and no outlet left for the gases, which, it was maintained, contained fewer germs than the outer air. He remembered that point being brought forward one day when he was Vice-President of the Congress, and he remarked that, if that could only be proved to be the case, the majority of persons would prefer to spend their vacation in great sewer outfalls rather than at the seaside. He believed he was right in saying there was a consensus of opinion as to the desirability of having openings to town sewers. The rise and fall of sewage acted like a pulse. The difference between the maximum height in the middle of the day and the minimum towards early morning effected a change of air, and it was very much better to have the sewer air brought out at frequent points and thoroughly diluted than to have it shut up in the sewer, without the possibility of outlet.

The author, in referring, on page 68, to the ventilation of private dwellings, said :—“ Many schemes and plans have “ been proposed and tried to overcome these defects, but “ only with limited success.” He (Professor ROBINSON) had some experience of the ventilation of both small and large houses, and he thought the conditions necessary for successful working were now very well known. The author also said a builder would not do this or that, but he (Professor ROBINSON) ventured to say it was not the builder who had to do with these things, but the architect or sanitary engineer, whose business it was to adopt some well-known and efficient system, and see that it was thoroughly carried out. So far as his experience went the best systems were now so well known and understood that it was difficult to agree with the author in saying that there was any serious divergence of opinion, and that the ordinary methods were only applied “ with limited success.”

In the case of a very large mansion with which he had

lately to deal, he had taken the opportunity, as he held should always, where practicable, be done, of combining warming and ventilation, thus avoiding objectionable draughts, and supplying fresh air (cold in summer and warm in winter) through openings sufficiently large to prevent any currents or draughts being perceptible. He tried a number of experiments on a large hall, for concerts and balls, belonging to the mansion which he had ventilated and warmed, and when the work was completed and the warming arrangement was set in operation it was found, by means of an anemometer, that there was no draught, although there was a change of air all through.

The arrangements at East Grinstead were, he thought, certainly open to question, if it was within the power of the local authority to compel householders to put ventilators on the sewer side of the trap. He remembered, some time ago, an outbreak of illness at Brighton, attributed to sewer gas being conveyed into the houses owing to the want of traps. The difficulty was solved by getting the owners to put up ventilators. But he thought the better plan was to let the householder keep his house drains perfect and properly ventilated, and to make it the duty of the local authority to deal with the ventilation and cleansing of the main sewer. He did not agree at all with the principle of making the unfortunate householder responsible for the mischief produced by defective sewerage---perhaps not bad in construction, but in design. A bad gradient and an insufficient means of flushing were certain to result in sewage deposit and consequent offensive and injurious gases; and it was but a poor remedy for such radical defects to make each householder provide a ventilator. The author, he thought, rather approved of the East Grinstead system, but he (Professor ROBINSON) did not think that East Grinstead should be taken as a typical case.

The usual practice was to carry up all soil pipes with a full bore, and he thought everyone now carried them up well above the roof of the house and away from the windows and chimneys. The reference in the Paper to the case of cesspools did not seem to assist the subject much. If people did stupid things he could not think there was much gained by putting them on record. He did not wish to express anything but hearty thanks to the author for the pains he had taken to prepare the Paper, but he could not help regretting that the question had not been dealt with in such a manner as to throw more practical light on the subject.

Mr. W. ALLPORT (Fellow) said he had very great pleasure in seconding the vote of thanks. He differed from the proposer with regard to uniformity of practice. He had a good many years' experience in the sanitation and ventilation of buildings, and only recently had to deal with a large building just finished, where about 1,500 children were being educated. He had been surprised, in these days of sanitary knowledge, to find that the atmosphere was in this case so vitiated, after the children had been in the building a few hours, as to be almost unbearable. Whether it was due to improper ventilation, or the want of carrying out instructions, or to inefficient management, he would not attempt to say; but he could not agree with Professor ROBINSON that in this case at least there was no difference of opinion as to the *modus operandi* of either heating or ventilating.

With regard to the ventilation of main sewers, he had unfortunately had some very disagreeable personal experiences on this point, within a very short distance from the Institution. Anyone who was acquainted with the foulness of the air which escaped from the sewers of Westminster, must know that at times it was exceedingly deleterious. The soil pipe

in the office which he occupied really acted as one of the vent pipes of the main sewer, more particularly when water was sent down in a volume by the authorities with a view to flushing the public sewer. The extra pressure caused by the water forced the gas from the sewer up wherever it could escape, and unfortunately for him, it found vent into his office—partly through the closets and partly through the old soil pipes, with the result that his staff had contracted diphtheria and similar complaints.

With reference to the ventilation of sewers by open gratings in the roadway, he had often noticed unpleasant effluvia coming from the main sewers of Regent Street and Oxford Street, under certain atmospheric conditions, and he thought it was a disgrace to the municipality that some better means were not adopted for the ventilation of the main sewer in such localities.

There was much to be said in favour of a scheme which the writer of the Paper had referred to as adopted in the Eston Local Board district. The difficulty of carrying out such a system on a large scale was that the further the chimney shaft was removed the less efficacious it was; but he thought single buildings might very well be ventilated, so far as the drains and sewers were concerned, by the use of hot-air flues.

If kitchen flues, for instance, were formed of earthenware, with a chamber on one side, such as had, he thought, been patented, a very efficient exhaust was caused by the action of the great heat from the kitchen fireplace. If every dwelling-house had some similar flue to this, which was made an exhaust flue, for the ventilation of its own system of drainage, it would very materially relieve the main sewers and sewage pipes from any pressure caused by the influx of water. He had known vent pipes of very small calibre to be provided, even by architects of

experience ; but he was convinced that they should always be at least of the diameter of the soil pipe, if not larger, and should have a trumpet mouth at the top, with a sufficient wire covering to protect them.

The writer of the Paper had, he thought, overlooked one point of some importance, and of which that Lecture Hall offered a good example. He referred to the benefit derived from the use of electric lighting, which, where it could be adopted, undoubtedly added very materially to the comfort and healthy condition of dwelling-houses.

Mr. H. H. COLLINS (Fellow) said, although he did not wish to say anything that might seem unappreciative of the merits of the Paper, he could not help taking exception, first, to its heading, and, lastly, to its ending.

In the first place, "Sanitary Ventilation" was a misnomer, for he held that ventilation could not be anything but sanitary. Then, with regard to the last part of the Paper, he took the same view as Professor ROBINSON. He had been engaged for the last 30 years on works connected with this question, and he had the pleasure of the acquaintance of, he thought, most of the leading sanitarians. He remembered very well that, on the occasion of a Sanitary Exhibition at South Kensington, it fell to his lot, in company with some of the foremost authorities on the question, to build typical examples of a sanitary and an insanitary house, and if there had been the slightest difference of opinion as to what was sanitary or insanitary it would surely then have been manifested, but he was happy to say that they were all in accord as to the true principles of sanitation, and he thought the practice during the last 10, or even 20, years had been absolutely uniform. He did not speak of mere details, but of the broad

principles, which were now the foundation of the practice of all sanitary surveyors.

After what Professor ROBINSON had said, he had little to add, for that speaker had touched on all his (Mr. COLLINS') points, and he would not reiterate them, but content himself with saying that he was in accord with the views expressed.

In the main portion of the Paper there was really little to discuss, but he must confess he did not quite understand the author when he said, for instance :—"There is a popular belief that the impure air in a room being heavier than pure air descends, and is near the floor level," and then spoke of the fact that when a room was "lighted by gas or lamps the *consumed* air is at the top of the room, and it is not possible to remain long near the ceiling in a defectively ventilated room, shewing conclusively that the consumed air is certainly in the upper part of the room." The author surely meant "vitiating air." At Guy's Hospital the principle adopted was to draw all the air from the top to the bottom of the room. He was recently there with the late Dr. STEELE, a very prominent sanitarian, and they found that tubes with outlets at the bottom of the room drew the impure air right down and carried it away.

He observed that one important matter was not taken into account in the Paper, viz., the diffusion of gases.

He did not think that pertussis, or whooping cough, could be attributed particularly to impure air, although impure air would doubtlessly aggravate it.

With regard to TOBIN's tubes, a long and painful experience had taught him that the cause of all the unpleasant draughts, and consequent complaints, was that—as in the case of TOBIN's tubes—cold air rushed in, and, indeed, sometimes rushed out. In St. Mary's Hospital (speaking from memory) these tubes were put in twelve feet or so apart, and when they were tested it was found that the

air actually entered by one and escaped by another, with the result that when there was any draught at all it was a cold disagreeable draught, injurious to the patients and others. But he believed that those architects who best understood the matter did not allow the air to enter cold, but adopted some such means as a grate, in which the back was of terra cotta with an air chamber behind, from which the warm air was discharged into the rooms at about 6 feet or 7 feet from the floor. Where such a system was adopted no complaints of draughts arose: the air was always pure and comfortable. TOBIN'S tubes had, he thought, another defect which might be avoided. They were generally made with elbows at right angles, which was a mistake. They should be made with a curve, or an angle of 45 degrees, so that the angle of impact of the air would be equal to the angle of reflection, and no obstacle to its free passage would be presented.

The ventilation of hospitals was dealt with in a very few words in the Paper, which did not offer any new facts, or throw any fresh light upon the subject. It was a recognised rule, as Miss NIGHTINGALE had said, that all patients should be as far from each other as possible; but he had not heard, certainly, that anything like 4,000 feet was an absolute necessity in hospitals, except in the case of those for infectious diseases. From his acquaintance with many hospitals he had found that 2,000 to 3,000 feet was about as much as, under present circumstances, could be allowed for each patient.

Another point to which he should like to draw the attention of the younger Members of the Institution, if they were not already acquainted with it, was that it was authoritatively proved and stated that, when a room was more than 12 feet high, no extra ventilation at all was gained by extra height. A room 15 feet or 16 feet high represented,

so far as ventilation was concerned, so much money thrown away.

He must express some wonder at the temerity of the writer in advancing such an opinion as he had done with regard to the ventilation of sewers by means of air gratings in the street. All whose opinions were really worth having, if he might say so, had expressed them at the various Hygienic Congresses which had taken place during the last few years, and all agreed that the perfection of a sewer would be to have it open from one end to another, if it were possible, and that the more air introduced, and the closer the ventilating inlets, the more pure would be the air in the sewer itself. Frequent outlets and inlets formed the nearest practicable approach to an open sewer, which was said to be the perfection of sewerage, and he was surprised that, at this time of day, any other theory should have been advanced.

The plan shewn by Mr. TIDMAN in connection with the Eston scheme seemed to represent a district which was but sparsely populated, and it might be that the health which the inhabitants enjoyed was due rather to the amount of fresh air than to the ventilating of their sewerage system. At the St. Rollox Chemical Works, Glasgow, a similar experiment was tried, with the result that the air was drawn from the nearest ventilator, and the rest of the sewer left unventilated. The area over which the benefit was spread was so small that in that case, at least, the system was not considered worth adopting.

With regard to the suggestion that, as at East Grinstead, an easement without compensation should be granted to local sanitary authorities all over London and the suburbs, he did not think that such a proposal would find much popular support, or would be considered a fair way out of a difficulty into which, perhaps, the incompetence or want of

foresight of the local authorities had led them. The system had been tried in the City and had failed. Colonel HAYWOOD, when informed that a building was about to be erected, addressed a letter to the owner and asked that it should be adopted; but very few persons would allow such an unpleasant easement, and nothing was so likely to drive tenants away as the knowledge of the fact that the sewer and the house were placed in connection. Without doubt, the proper way was to place an intercepting trap between the sewer and the house, and to see that the drainage system was efficiently aerated and the air properly circulated from top to bottom. He agreed with the author that there should be two ventilating pipes, the one in front and the other at the back of a house. Wherever water fell in a pipe, air followed, and thus every w.c. soil pipe, lavatory, and bath was a means of ventilating the sewer. As the water came down it carried with it a certain amount of air which passed down through the house and up the ventilators, *sweeping* out the house drains and giving all the ventilation required.

The theory that efficient ventilation could be obtained where rain-water pipes and vent pipes were identical, was so exploded that he hardly dared to touch on it, but the author said:—"Rain-water pipes should not be used as vents; " the only case where this is permissible is where they are " tight jointed." He (Mr. COLLINS) believed that it was never permissible, and for the very reason which the author noticed, namely:—"Although they may be inlets, yet, under " other conditions, they become outlets, and are thereby " liable to be dangerous. Again, at the time the drains are " most charged with water and want outlet ventilation, the " water falling down a rain-water pipe prevents and retards " the escape of the foul air."

The quotation from Mr. ROGERS FIELD in the Paper:—

“ If sewers were properly constructed, properly flushed, and properly ventilated, you will practically have no appreciable smell from them,” was true enough, and it was also true that if drains were laid with a proper gradient, and were clean and properly ventilated, *sanitary perfection was reached.*

Sewer gas had, he thought, come to be regarded rather as a bugbear. The London County Council were now making experiments with regard to sewer gas, and, however strange it might seem, it was found (so he was informed) that there were less microbes in sewers than in the open air. If that were true he thought the danger from sewer gas had been largely overestimated.

There could be no doubt that impure air admitted into houses favoured the development of disease germs, but even the facts given in the Paper did not point to any very serious danger from sewer gas.

The questions of high buildings, model lodging-houses, hospitals, and artisans’ dwellings had been discussed so often in that room that it would be waste of time for him to reargue them. It was agreed, he thought, that in the case of hospitals ample space between the blocks was the essential factor in a building on the pavilion system, and so, if houses—artisans’ dwellings or model dwellings—were built to abnormal heights without leaving sufficient space between them and on all sides, insanitary conditions were necessarily established.

Mr. P. E. PILDITCH (Fellow) said he thought Members were indebted to the author of the Paper for his *résumé* of the elementary principles of ventilation, and for bringing together information which otherwise might have required searching for in books, at some expenditure of time. But he could not help feeling somewhat disappointed,

as other speakers before him had been, that there was no serious attempt, as he took it, in the Paper to grapple with any of the more difficult problems of ventilation with which building surveyors and architects had to deal. He could not but think that, if some of the elementary information given had been omitted, and one or two practical and difficult points taken up and thoroughly grappled with by means of diagrams and otherwise, it would have been better.

It seemed to him that the question of the ventilation of buildings, as a previous speaker had said, could not be considered apart from that of their heating. The whole of the difficulty attending the ventilation of buildings, whether large or small, arose from the fact that people would not stand draughts. Whether it were in a small dwelling house or a large public building, it was impossible to get the ordinary Englishman (or anyone else as far as he knew) to endure a draught for the sake of breathing pure air. It was of no use to attempt to deal with the ventilation of apartments of any size, unless some system of regulating the warmth or coldness of the air were adopted, and that was why, he thought, it was found more difficult to ventilate buildings in England than in almost any other country. The climate was so variable that it was necessary in any system of ventilation to allow a large margin for changes of temperature. The author, in his Paper, referred to the case of a building properly constructed, *i.e.*, where all the joinery was good and there were no leakages of air from the outside into the apartment, and said that in that case the right thing to do was to provide a proper inlet of cold air, say, through the window. He (Mr. PILDITCH) had found from experience that this sort of ventilation was hardly ever popular with those living in the room. People who sat under a window or at a table near it, as one had to do in one's office, would not endure an open window, but would rather sit in a close, stuffy room. Within the last

year or two he was sorry to say he had had what might be considered a liberal education in the art of ventilating, owing to the fact that a large building consisting of offices came into his hands as surveyor, in which the architect had forgotten, in erecting the building, to provide for ventilation. The building was erected in much too substantial a manner for ventilation. It was built of stone masonry, with fireproof floors and partitions of the same kind, and all the joinery was so exceedingly good that there was no chance of getting the slightest breath of fresh air into the rooms at any point. The consequence was the stoves always smoked; the tenants could not sit in their rooms except with the doors or windows open, and the building was gradually becoming deserted. What, under these circumstances, was to be done? He first thought—as Mr. TIDMAN had suggested—of having small openings in the upper part of each window so as to provide a proper inlet, trusting to the fire to provide an outlet, and this was done in some cases, but it had no effect, for the tenants objected to the draught over their heads and closed the inlets. At length he hit on a remedy which turned out to be effectual, by the substitution of a particular form of stove for the ordinary fire-places. The stove was one which would stand in the fireplace, was fitted with coils inside, and could be heated by gas or coal or coke. The fresh air was brought from the outside of the building between the joists through a pipe about $1\frac{1}{2}$ to 2 inches in diameter, carried under the stove and up through the coils, the air being heated as it passed through the coils. The fumes were carried into the chimney by means of a pipe from the upper part of the stove. The result was a current of absolutely fresh though warm air flowing into the room, and wherever this method was tried in the building it was found very successful; rooms

which had become vacant were relet; and the adoption of this simple expedient enabled him to carry out the ventilation of the greater part of the building at a slight cost—the price of each stove being something like £3 to £4. There were several other points he would have liked to speak upon had time permitted.

MR. R. F. GRANTHAM (Associate) said he could hardly agree with the conclusion arrived at by Mr. TIDMAN with regard to factory chimneys as ventilators to sewers. In 1858 a Select Committee inquired into the ventilation of London sewers, and came to the conclusion that factory chimneys, though beneficial for short lengths of sewers, were otherwise impracticable, and he thought a glance at Mr. TIDMAN's table would show that the facts there given confirmed this.

It would be observed that the velocity of the draught at the point of connection of the sewer with the chimney shaft was 2,000 feet odd. Sixty-six yards away it dropped to an average of 1,100 feet. That was at manhole No. 4, and at a manhole 166 yards away from the point of connection it further fell to 100 and 137 feet. This was what might be fairly expected, and he thought it proved in the clearest way that factory chimneys had very little influence at a distance, while it was impossible to expect to find factory chimneys conveniently situated at every 150 yards along the line of a street.

Another point that Mr. TIDMAN alluded to was as to gas destructors in the ventilators of the main sewers. It was said that gas was found to escape from the destructor, and that the gas company cut off the gas for fear of an explosion. But, apart from any question of that kind, he was convinced that to interpose a destructor in the up-cast shaft was not advisable. His friend Mr. WALKER, the borough engineer for Croydon, took some measurements

of air passing up an up-cast shaft in the neighbourhood, and found that 1,500 cubic feet per hour passed through the shaft, with the gas destructors, while 1,850 feet passed through another shaft, without any destructor in it, showing that the shaft without any destructor in it was a better means of ventilating main sewers. He had had some experience in putting up these shafts lately, where he had carried out the drainage works of a town, and had used either columns 22 feet high, or pipes up the side of the houses, both of which gave beneficial results by creating a considerable artificial draft—in fact, in the case of one only 10 feet high a workman said the draught was enough to blow his cap off.

Mr. A. HARSTON (Fellow) said he thought thanks were due to Mr. TIDMAN for bringing forward for discussion a subject on which practical men must often agree to differ.

With regard to stables, there should, without doubt, be neither drains nor traps in stables at all. The best method of drainage was a small shallow iron gutter which led the drainage of the stable direct to the outside.

The ventilation of hospitals had been already dwelt upon, and he would only add this point—he found that a very convenient method for summer air inlet was by having a long hopper included under the architrave at the top of the window, with side cheeks, made self-closing and opening by means of a cord and rack. That allowed the entry of the air to be regulated, but it necessitated a 9-inch reveal to the window and a soffit grating behind the arch. Venetian blinds, too, he believed were valuable adjuncts to hospital ventilation, as they were of hard, non-absorbent material, and could be opened so that a large quantity of fresh air would be admitted and deflected so as to obviate any complaint. It was a curious thing that in hospitals it was very

important not to make the means of ventilation too obvious. In a hospital where some 500 small inlet ventilators of a well-known form were fixed it was found, even in summer, that the patients objected to them as being draughty, and would have them closed. But after the cords were all cut off the ventilators had never been closed, and there had been no complaints of draughts.

Another frequent mysterious cause of draught was the ordinary fixed window. The air inside, especially if the window faced north and was unprotected by double glazing, coming in contact with the glass and being rapidly cooled, poured down the inside in a continued unpleasant stream. Of course the same thing occurred in the case of a window made to open, but in that case other evident causes of draught removed the mystery.

Of course the placing of heating coils under a window, so as to warm the cold descending air was an obvious remedy.

With regard to utilising high chimney shafts for the ventilation of drains, he had in one case done so with great advantage. All the inlets were carefully sealed except one at the end of the drain farthest away from the chimney shaft, and the result was a powerful continuous draft of fresh air constantly drawn through it. The drain, which was perhaps one-eighth of a mile in length, was the principal drain of a workhouse, and was not a public sewer. He admitted that in public sewers certain conditions existed which prevented the ventilation shaft being efficacious except at small distances.

As to ventilation pipes, he supposed all were agreed that the pipes should be carried up the full size of the soil pipe, and that there should be an inlet and an outlet. The ordinary fashion was to have an inlet pipe four or five feet high under the manhole, and an outlet pipe carried up as high as

it could be got, but it was a mistaken idea that such an arrangement acted as a syphon did in water. A syphon put into water acted when the shorter leg was immersed in a fluid or gas of greater specific gravity than that in which the longer limb was contained. The manhole, with its short inlet and long outlet pipe, was similar in shape to a reversed syphon, and was, as it were, immersed entirely inside and outside and at both ends in air of the same, or but very slightly differing, specific gravity. In this case no true syphonic action took place. He had tried an experiment with a glass bulb fitted with a short tube inlet and a long tube outlet, filling the whole apparatus with tobacco smoke, and found that the smoke only came out of the longer leg in preference to the other when the bulb was very highly heated over a gas fire; perhaps some very slight effect of that kind was produced when the outlet was exposed to the sun. The current of wind might assist the action by blowing into the inlet, but it did not always blow in the right direction. There was no true syphonic action, and a better effect was produced if the inlet pipe as well as the outlet was carried up to the top of the house. Furthermore, when these inlets were fixed, a mica valve was put to prevent the inlet becoming an outlet. This was seldom effectual, and if it were how long did it last? The talc traps were soon out of order, and whether so or not it would often be found that the inlet acted as an outlet.

A previous speaker referred to TOBIN's tubes. These were often shut when it was thought they were open, and were sometimes even piled up with books or otherwise used as shelves, or with the avowed intention of keeping out the draught.

One point that had not been touched upon was the finish of the outlet tubes. There was a great controversy between

the advocates of open tubes and tubes that had an exhaust ventilator; but he found that the removal of the ventilator, such as is commonly in use, and the substitution of an open end to the outlet pipe, did not in the least affect its efficiency.

He believed in open outlet pipes. In some cases it might be necessary to put wire over the top, and they should be finished off with a bead to make them look sightly, and left open for the aspirating action of the air over the top.

Mr. TIDMAN, in reply, said his Paper had, to a certain extent, answered the purpose for which it was written, for it had raised a discussion, although the speakers who had most severely criticised it had not enlightened the Meeting or given much information as to their own experience of the matter under discussion. There was nothing in what his critics said, he thought, that threw any further light on the subject, or upon points which he had lost sight of or omitted altogether. The plan he exhibited was not intended to represent the houses in the district of Eston, but was simply to shew the sewers and their outfall. As he said at first, he apologised for its being small; but those who were sufficiently interested in it could examine it more closely.

He did not agree with some of the speakers as to the uniformity of practice, for the very discussion that had taken place shewed that there was no such uniformity.

As to rain-water pipes being vent pipes, Mr. COLLINS said he did not approve of it, but when one could not conveniently fix two long vent pipes the rain-water pipe might with advantage be used as an inlet in lieu of a pipe with a mica valve providing it were tight jointed.

With regard to Colonel HAYWOOD's action in the City,

vent pipes were required, and no one could tell what better to do with the sewer gas in such a place. In provincial towns and detached houses it was an advantage to have these vents, for the sewer gas escaping through them was so diluted, where they were numerous, that it was pretty nearly as pure as, or, as had been suggested, more pure than the outside air, because microbes could not live in it. The fact, however, that it killed even microbes did not, he thought, argue for its purity.

It was said by Mr. GRANTHAM that vent pipes should have no obstruction, and Mr. HARSTON referred to the use of ventilating caps to outlet pipes. He agreed that in the latter case a simple wire guard over the outlet was the best way to deal with it.

As to stable drains, undoubtedly these should not be inside; they should end with a gully, and the water and liquid sewage should be brought outside in open channels.

As to mica valves, he liked to fix them when he could not get a long pipe, because they were better than an open grating. In the neighbourhood between Tottenham Court Road and Portland Place nearly all the houses were drained on the old system, with an open grating inlet in the area, and the foul air when closets were discharged came out under the windows. This was a very objectionable arrangement. He considered that sanitary fittings wanted attention and occasional repair, just as a watch demanded it from time to time. All such appliances would wear out and must be renewed.

In London there were, unfortunately, 39 separate vestries or districts. In many there were no drainage regulations whatever, and in others they varied so much that in some districts there might be 3-inch vent pipes fixed, in some 2-inch, in some 4-inch, in others there were no stipulations

at all, and in this direction, at any rate, that uniformity of practice was wanted.

The vote of thanks having been put and carried unanimously, the Meeting adjourned.

A SHORT EXPLANATION OF
THE PROPOSED BIMETALLISM
AS IT WOULD AFFECT BRITISH INTERESTS.

By P. D. TUCKETT (FELLOW).

*Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION,
Monday, January 9th, 1893.*

CHAS. J. SHOPPEE (PRESIDENT) IN THE CHAIR.

INTRODUCTORY.

MANY of my professional and other friends say they cannot understand Bimetallism, and this is not to be wondered at, considering the obscurity of much that is written or said on the subject, and the large amount of detail and statistics which appear to be found needful, when any leading authority on either side expresses his views. The subject, indeed, in some of its branches, is a most intricate one, and produces differences of opinion amongst the greatest authorities. But to understand what a question means, and to be sure of the correct answer to it, are very different things. Until lately many of our Members may have been content to do neither, but after the recent Agricultural Conference I expect most of them will wish at least to do the former. It has occurred to me that I may possibly be able to give them a little help towards forming a clearer view of the subject; and I am the more induced to try, because my friend Mr. DRIVER, in his Presidential

Address in 1890, expressed a hope that we might have a Bimetallist discussion, and that I might take part in it.

I think there is often a little confusion between the cost of production on the one hand, and supply and demand on the other, in determining prices.

I take it that the first great natural law, is that the price or value of articles of general utility ultimately depends on the cost of production. That should result in such a price or value as will just allow a reasonable profit and suffice to induce the continuance of such production, without producing an excessive supply.

The second law is that this ultimate or natural value may be altered temporarily (and sometimes for a considerable time) by fluctuations in supply and demand. Thus, if the demand exceed the supply, the price may be forced up until production is thereby so stimulated as to satisfy the demand. Or if the supply exceed the demand, the value may drop below the cost of production, thus checking production, until the value based on the cost of production is again reached.

I think these principles may be applied to gold and silver, bearing, however, in mind that, they being indestructible, the annual production is only a small percentage of the total stock existing in the world, which ought to render changes of value slower than in the case of articles of consumption.

Again, bimetallists suggest that the prices of commodities are depressed by a scarcity of circulating medium, owing to the demonetisation of silver in some countries. Such a thing might possibly happen, but I believe it is quite clear that nothing of the sort has happened yet.

Silver is still very extensively used throughout large portions of the world, and had it, through a universal free coinage, been made available as legal tender everywhere,

the immense increase in its production must have resulted in the price of commodities being forced up to an extraordinary degree. I think this will be clearly shewn further on.

In considering the sufficiency of the supply of gold for the wants of an increasing population, it would be a great mistake to leave out of sight the wonderful extension of banking facilities and credit, which constantly reduces the need for its direct use. Most large transactions are now carried out, without any actual transfer of money at all, by means of cheques or bills of exchange, the comparatively small amount of gold deposited in the Bank of England and various foreign banks doing duty for each in turn, without ever actually changing hands.

It may, indeed, be a very interesting banking question, whether the twenty odd millions of gold in the Bank of England, form a sufficient basis for safety for our immense credit transactions. Everybody knows that if everyone, having a balance at his banker's, insisted on being paid in gold on the same day, the gold does not exist in London with which to pay them all at once. This contingency is provided for by the power possessed by the Government of the day, in such a case, to suspend the Bank Act, which would enable the Bank of England to issue legal tender bank notes to as large an extent as might be required, without any corresponding gold reserve, to those who held good negotiable securities to give in exchange. The Government has twice during the last forty years, in time of panic, agreed to suspend the Bank Act, and the knowledge that that had been arranged, at once stopped the panic and rendered the actual issue unnecessary. No one wants to hoard the gold, except through fear, and therefore, the panic passed, it would soon come back, and the note circulation be again restricted to its proper limit. Whether

it would be prudent to increase this stock of bullion, when we consider how very small it is compared with the stocks held by some of the foreign national banks, may well be debated by bankers, and it seems probable that they ought to hold more; but I believe it is admitted there would be no serious difficulty in procuring the additional gold, if anyone were willing to pay for it; but it seems that neither the Government, nor the Bank of England, nor the other bankers, care to incur the necessary expense.

But be that as it may, we have an extended system of credit on a gold basis, and I think it is clear that there is no ground whatever for alleging any scarcity in the amount of our circulating medium, as occasioning a fall in prices.

Again, I think our bimetallist friends, whilst alleging a supposed increase in the value of gold, sometimes strangely ignore the far more obvious fall in the value of silver.

It may also be noted that bimetallists include two classes with wholly different, and indeed opposite, aims. Those who chiefly brought about the Brussels Conference hope to arrest the fall in the price of silver, if not again to raise it a little; whilst those who address themselves to our own agricultural interest desire only (or chiefly) to depreciate the value of gold.

From these introductory remarks, I pass on to the main subject.

OUR STANDARD OF VALUE.

The pound sterling is much more than a coin; it is our one standard of value between buyer and seller, and, what perhaps is still more important, between debtor and creditor. It consists of $\cdot 2568$ of an ounce of standard gold, having $\frac{1}{12}$ th alloy and $\frac{11}{12}$ ths pure gold. In order to make it a real standard of value, we have free coinage; that is, every person owning gold bullion has a right to have it coined at the mint, thus converting it for him into legal tender coin.

Our silver coins have no such character. They are mere tokens of fractions of a pound, and are not nearly intrinsically worth their face value. They are legal tender only up to forty shillings. There is no free coinage of silver in this country. The Government coin as much as there is a public demand for, and make a handsome profit on doing so.

Bimetallists sometimes mention that silver was also a legal tender in this country until 1816. At that time, specie payments had been suspended for years, and, as far as I can learn, silver was then (at the ratio of $15\frac{1}{2}$ to 1) rather the dearer of the two metals, and had thus become obsolete as a standard of value, and the cheaper metal was then constituted the only standard. I do not think this ancient circumstance has now much bearing on the present state of affairs.

The representatives of the United States, who proposed the Brussels Conference, have definitely proposed bimetallism at a ratio of $15\frac{1}{2}$ to 1, and stated that they regard that as the only remedy for the depressed price of silver, and I apprehend there is no doubt that is the definite proposal which the Right Hon. HENRY CHAPLIN, M.P. and others recommended to the National Conference, though I did not hear the ratio definitely mentioned; and it is understood no other would be acceptable abroad, and to those who originated the movement.

This means that there should be free coinage of silver as well as gold; that silver should be a legal tender to any amount; and that every debtor (without consulting his creditor) should have the option of paying his debt in a new sort of pound sterling, consisting of 3.9804 oz. of silver (that is, $15\frac{1}{2}$ times the weight of a sovereign). This weight of silver is at present prices worth just $\frac{5}{8}$ ths of £1 (or, say, 12s 6d.)

The only plausible reason put forward for this tremendous

proposal, is that gold has appreciated in value during the last 20 years, as Mr. CHAPLIN stated at the Conference, and as every bimetallist writer puts it. I cannot find that any one of these writers offers any explanation of the reason why they calmly assume the point of the most extreme depression that gold has ever undergone, and from very exceptional causes, as the normal point from which to start their argument, and I am quite unable to offer any, but so it is.

The first question upon this is, whether a rise in the value of gold, if true, would justify a solvent and wealthy community in artificially lowering its standard to the disadvantage of creditors. Twenty or thirty years ago, when the great Australian gold discoveries were supposed to have depreciated the value of gold, and to be likely to do so much more, M. CHEVALIER and Mr. COBDEN wrote a book on purpose to warn the owners of fixed incomes (the creditor class) of their impending ruin, and advising them to change some of their investments in time. But neither they nor anyone else, suggested for a moment that the Government should make any change to counteract the effect of natural laws upon the standard that had been agreed on between all classes. I suppose it will be admitted by every candid bimetallist that the appreciation of value should at any rate be very great and very persistent over a rather long period, to justify such a momentous and radical change.

It is very important indeed to inquire what is the truth, so far as it can be ascertained, about this supposed appreciation. It is not a very easy or simple thing to measure the value or purchasing power of the one article used as the standard by which to measure the value of all others, because though you may note the changes in the prices of commodities, there are so many other causes which may be supposed to influence these, and they do not all move up or down together. This, however, was one of the most

especial duties entrusted to the Gold and Silver Commission in 1888, and the evidence taken by them on this subject as to the value of gold from 1851 to 1888 is printed in the first part of their report, which all the twelve commissioners signed. The result of this evidence is that the value or purchasing power of gold was found to be almost exactly the same in 1888 as it had been in 1851, the date from which the inquiry began, but that there had in the interval been a gradual depreciation from about 1853 up to 1873, since which it had gradually reverted to its former value. The commissioners printed in their report five very elaborate tables of the wholesale values of a very large number of commodities. One of these was compiled from the prices published by the *Economist* newspaper; three others were constructed by Mr. A. SAUERBECK, Mr. INGLIS PALGRAVE, and Dr. SOETBEER, and one was compiled by Dr. GIFFEN from the Board of Trade returns. These tables are summarised in a diagram with lines of different colours, and the general result is that the average prices of commodities, measured in gold, left off in 1888 at just the same average level as they started from in 1851, though they had been considerably higher in the interval, chiefly from about 1864 to about 1873.

The depreciation of gold at that period is usually attributed (in part at least) to the very large quantity of alluvial gold which had lately been found in Australia, and which was obtained at a very small cost of labour, compared to the quartz-crushing process which had been previously, and has since been employed. This large additional yield may be said to have supplied the United States and Germany and Italy with a gold currency. I think, however, another event coinciding with this, may have helped to increase this temporary depression—I mean the American Civil War, during which the United States

probably sent most of their gold to Europe. This might tend to depress it, and when they again provided themselves with a much larger gold currency, this influence would be reversed.

I find the world's annual production of gold at the beginning of this century was £2,480,000, and up to 1848 it was under £3,000,000. Then came the Californian discoveries, and in 1849 it was about £13,000,000; twenty years later it had risen to about £27,000,000 or £28,000,000 on the average of five years; in 1885 it was still twenty millions, and I believe that with some recent additions from South Africa, and a little from India, it is now supposed to have risen again to about £24,000,000 or £25,000,000, with a tendency to increase. The amount of gold annually used in the arts is estimated by some authorities at about twelve millions, and by some at less than half that amount; several millions are absorbed by India; a small amount may be hoarded, and a small amount is also required to replace the wear and tear of gold coins, but a considerable number of millions remain for additional coinage annually, and apart from newly established gold currencies, it is not unlikely that the extension of banking facilities may counteract any extended need of gold as population increases.

The total gold production since the fifteenth century has been estimated at over £1,600,000,000, and, as it is indestructible, most of it is supposed to be still in stock somewhere; and the amounts known to be held in certain of the national treasuries and principal banks of the world is estimated at about £400,000,000.

The increase of production from the three millions or more before the Californian discoveries to the maximum of about 28 millions was so large, and the subsequent reduction so comparatively small, the latter being only a fraction of

one per cent. on the total stock, that the authorities, I believe, deem it unlikely that this would produce any material change in the value of the latter.

Another reason that induces me to think that there can have been no appreciation of gold compared to 40 years ago, is that wages are now higher, judged by a gold standard, than they were then, though prices of commodities are about the same. After all, human labour is the best ultimate standard of the value of anything to mankind.

In short, all the evidence seems to point to gold being a widely-distributed substance, obtainable only with considerable labour, but obtainable in large quantities by the expenditure of labour, and in every respect the best and most stable standard of value, and that, as a matter of fact, no considerable permanent alteration can be discovered in its purchasing power, compared with a reasonably distant period, and apart from some temporary fluctuations.

The causes of the very serious fall that has occurred in the prices of agricultural produce in this country, appear obvious enough without any special reference to gold. The extraordinary reduction in freights and other expenses of transit, the vast extension of railways in many new countries, which has opened up vast tracts of virgin soil, and Professor GAMGEE's remarkable discovery, by which meat is so easily and cheaply kept frozen during long voyages, appear ample to account for what has occurred.

With regard to the present dulness of trade, this appears to be accounted for by the greatly increased competition of foreign manufacturers, and by the unwillingness of British workmen to accept the conditions needful to enable them to compete successfully with foreign workmen, and to ensure the continuance of the period of comparative prosperity which has now lasted more than a generation, and made them forget the state of comparative privation endured by

their fathers, and which they may entail upon their children.

With regard to the probable future value of gold, the supply of gold currencies to several important countries has absorbed some considerable portion of the great additional supply, and some moderate further absorption of that sort in the near future may probably about suffice to prevent any marked change in either direction for some years; but as the Transvaal and Southern India are more opened up by railways, a largely increased gold production is expected, and there is little doubt that, in the long run, the tendency will be towards depreciation in the value of the metal, as it has been in past centuries. The only thing that could produce a serious appreciation of gold, would be some extraordinary demand for it on a larger scale; and I know of nothing to be apprehended in this way, unless our Government were prematurely to attempt to supply India with a gold currency (a somewhat different thing from a gold standard), of which there is no probability.

If we turn to silver, we find a very different state of things. During the middle ages, the value of silver was about $\frac{1}{16}$ th, and during the first half of the present century, and up to 1851, between $\frac{1}{15}$ th and $\frac{1}{18}$ th that of gold. Now it is between $\frac{1}{24}$ th and $\frac{1}{25}$ th that of gold; while it has been shewn that the prices of general commodities in gold are about the same at the two periods. The annual production of silver at the beginning of this century is stated at about £8,000,000. It afterwards fell to about £4,000,000, and between 1841 and 1850 it had risen to £6,867,000, and in 1856-60 to a little more than £8,000,000, whilst that of gold had increased to £28,000,000, and in 1866-70 it was still under £12,000,000. But in 1871-75 the annual production of silver was valued at £17,232,450,

and in 1880-85 at £21,438,000, although the price had then fallen from 5s. 1d. to 4s. 2d. Since then there has been a great increase, and in 1891 it reached 145,000,000 ounces, which, even at the present reduced price of about 3s. 2d., amounts to about £23,000,000, and at the old price would have amounted to between £38,000,000 and £39,000,000.

About 1873, concurrently with the increase in the production of silver, and perhaps in consequence of it, Germany established a gold coinage, and began selling off a portion (but less than half) of her silver. These sales were continued from 1873 to 1879, and reached in all about £28,000,000.

In consequence of the increased production, accentuated for the time by these German sales, France, Italy, Belgium, Switzerland, and Greece (known as the Latin Union), which, since 1865, had given free coinage to silver at the ratio of $15\frac{1}{2}$ to 1 (France having done so since 1803), felt themselves unable any longer to bear the loss occasioned thereby. In 1874 they limited the coinage of 5-franc pieces to fixed amounts, and in 1878 the coinage of full legal tender silver was suspended. But the existing legal tender silver was not demonetised, either in these countries or in Germany, and in the Latin Union, at any rate, it continues to circulate. Before 1850, France was a silver-using country, holding but little gold, and that little commanded a small premium, notwithstanding the legal ratio. But when gold became the cheaper metal, it quickly took the place of a large part of the French silver. When silver again became the under-valued metal, gold began to leave France again, and silver to flow in. No Government could go on bearing the loss on exchanging its dearer for the foreign cheaper metal at a fixed ratio. Hence the stoppage of the free coinage. Thus bimetallism, adopted by only five countries, broke down

directly it was tested by any serious divergence in the real values of the two metals from the ratio, and the statement sometimes made that the Latin Union succeeded in keeping the values of the two metals at the ratio agreed on, is clearly a mistake; it is just what they failed to do.

The total value of the silver produced since the 15th century has been estimated at £1,900,000,000. (I presume this is rating it at higher prices than have lately prevailed.) A large part of this has been used in the manufacture of silver plate and other silver goods, or in chemistry and the arts; and a considerable amount may have been hoarded, and finally buried and lost, in Eastern and uncivilised countries.

Although even the present large amount of production is but a comparatively small percentage on the remaining stock, it is probably a much larger percentage than in the case of gold; and, be that as it may, it seems clear that it is far larger than the demand for it. This has been proved in a very remarkable manner by the United States Government. This country was formerly bimetallist at a ratio of 16 to 1, but when specie payments were resumed in 1873, after the Civil War, a gold standard was established. Under the influence of the silver miners an Act was passed in 1878 obliging the Government to coin from two to four million silver dollars every month, which were made a legal tender (at 16 to 1) for any amount, and in 10 years \$300,000,000 were bought and coined, which would be more than double the amount sold by Germany. Since then a new Act has been passed raising the monthly purchases to 4,500,000 oz., or 54,000,000 oz. of silver a year. This is not coined, but deposited at Washington, and legal tender bank notes (called silver certificates) are issued, so far as they can be got into circulation, for which it is the security. The amount of silver now held by this Government appears to have reached about \$450,000,000 (besides \$62,000,000 in circulation),

or about three times the annual production of the whole world. This enormous artificially created demand for the metal has wholly failed to maintain its price, or even to prevent its fall. It seems only to have stimulated mining and increased the production. Since this very large operation has failed to maintain the value of silver, it seems unlikely that any probable international arrangement would do so. As to the cost of production, it has been publicly stated that at the Broken Hill Mines, in Australia, the cost is only 1s. 4½d. per oz.; but Mr. E. V. LEECH, of the United States Mint, on information received from 155 mines in the States, puts the average cost at 2s. per oz.

Silver is not, like gold, distributed in very small proportion through immense masses of hard rock. It is found in extensive lodes, which sometimes yield an enormous return. Many people believe that a further fall in its value is inevitable, till the price is such as to stop or very much check silver mining.

Such being the state of affairs, if, by bimetallism at a fixed ratio, the values of gold and silver were attempted to be linked together, although some little increased use of the cheaper metal might possibly temporarily and very slightly increase its value, it is considered that it could not for any considerable time raise it beyond that based on a fair profit on the cost of production. Indeed, it is not inconceivable that it might, under certain circumstances, go below the cost of production, if the stock of the two metals added together became too large for any useful employment. There is no chance of their together proving insufficient for the demand, so as to raise their value. And the option being wholly with the party paying (or, say, acquiring bullion as a bank reserve), who would always choose the cheaper metal, the latter would, in fact, become *the only effective*

standard of value, to the exclusion of the other. This is a fact fully recognised by the great economic writers, and it follows that the bimetallic theory is radically unsound.

But it does not follow that the dearer metal would not be reduced to the value at which it would be exchangeable with the other. If one country only adopted bimetalism, all its gold would be exported to countries where it was still worth its full value. That is not proposed, but a universal free coinage by convention between the different nations, which is, in fact, an artificial device for boycotting gold, so far as it is used as a basis for note issues and for bank reserves. For if there remained no country of any importance in which gold could be used, except for hand-to-hand currency and in the arts, or for hoarding, or as a substitute for an inferior value of silver, it might probably happen that the whole stock could not be employed without resort to the latter purpose, and that, as the holders would choose to make some use of it, it would fall in value to the point arbitrarily fixed on by the ratio with silver, and one result of that would be that gold mining would cease to pay and might be discontinued; whilst silver mining would be further stimulated. Gold mines are chiefly in British territory. Silver mining is one of the great industries of the United States.

Some of those whose object is to raise the price of silver, seem to think, or occasionally (but not always) write as though they thought, that gold could in some way drag the value of silver up again; but this appears to be an entire illusion, and is not, I believe, shared by those who address the agricultural community in this country.

THE EFFECT OF BIMETALLISM IF ADOPTED BY ENGLAND.

Now let us consider what would be the probable effect on different classes and interests, if this bimetalism, at the

ratio of $15\frac{1}{2}$ to 1, were established in this country. We must suppose it nearly universal by convention with other Governments, otherwise we should at once lose all our gold. The first effect would be that large amounts of silver would come to the mint to be coined; that might possibly raise its price a little, but I do not think the rise could be great or long continued, as the Americans would be glad to send us a considerable part of their huge store, and other countries some of their enormous stock of useless silver coins, and the opportunity for home absorption would be pretty much confined to the displacement of about £20,000,000 of gold held as bank reserve. The silver miners would probably soon produce enough to make the price lower than ever. We have no guarantee how low it would go; but let us assume (a great assumption) that it would continue at its present value of 38*d.* per ounce. The new pound would then be worth just $\frac{1}{5}$ ths of the old one (or 12*s.* 6*d.*), though it would be called a pound sterling, and divided into twenty (depreciated) shillings as before. Let us begin with those who would benefit, and in the first place Archbishop WALSH and the Irish farmers. Some of them have just bought their farms with money borrowed of the Government, and it would be excellent business to reduce these loans to 12*s.* 6*d.* in the pound at the expense of the British taxpayer. Many others have judicially fixed rents which cannot be altered for, I think, fifteen years. Whilst nominal prices of everything rose 60 per cent., and rents could not be raised, there would be a handsome profit for them. But this would not, I suppose, apply to the others, whose rents have only been reduced by private agreement.

Heavily mortgaged landowners would gain. Thus, if an estate mortgaged for £10,000 be now only worth £10,000, but you call the value £16,000, in a depreciated currency, a mortgagee could be repaid his £10,000 in the depreciated

currency (equal to £6,250 at our present standard), and £6,000 (equal to £3,750, in our present standard) would remain.

The drawback to this would be that on the first announcement of such legislation, many mortgagees might call in their loans, and try to realise their securities without waiting for the catastrophe. Dr. GIFFEN goes much further than this. He says that the second reading of a Bimetallist Bill would be the signal for the calling in of all debts, which would produce an immediate financial panic, and render the passing of such a measure impossible.

Every right-minded man must heartily regret the cruel misfortunes which the terrible agricultural depression has occasioned to the heads of many old county families, men whose influence for good in their own neighbourhoods would be a very great loss to the country. Their ancestors may have devised or settled their estates, subject to charges for younger branches, which at the time seemed perfectly reasonable, but under very altered circumstances have proved quite unreasonable. They may have raised loans in order to construct new farm buildings, build improved cottages, and otherwise benefit those about them. Some of them may have laid out on their estates more than the latter are now worth. Now the margin may be almost gone. It would be a grateful thing, and a good thing for the country, if any honest means could be adopted to mitigate this depression, and help such landlords and their tenants. But when he heard their champion proposing to coalesce with the Irish Catholic Archbishop, and with foreigners whose interests are in some respects opposed to those of this country, and expressing his hope or expectation of being able to carry such a measure through the House of Commons, through the help of the Irish vote, well might Lord WINCHILSEA

exclaim at the National Agricultural Conference, that bi-metallism and adversity make strange bedfellows.

I do not see that those landowners whose land is wholly unencumbered, and tenant farmers (without long leases), would derive any great permanent advantage from such a change. If the nominal price of everything went up, expenses would increase in the same proportion as gross returns. Probably, for the first year or two before his rent and wages were fully raised, the farmer would gain a trifle, but at what a cost!

Supposing that the financial crisis suggested by Dr. GIFFEN were escaped, then a great and sudden upward movement in the prices of commodities would naturally produce temporary briskness of trade and wild speculation, causing over-production, to be followed by a corresponding depression, when the rise had ceased. There would be much speculation, and a number of shrewd people, who know exactly when to buy and when to sell, would make their fortunes; and the very much larger number who were less shrewd would suffer for it.

Very large classes would permanently suffer—and many of them people of small means. Every person whose life is insured, seeing that the funds of the offices being invested almost entirely in loans, or investments having fixed incomes, they would lose $\frac{3}{4}$ ths of their property and income. All those who very lately lent the Government their money at a very low rate of interest, by taking Mr. GOSCHEN'S new loan; all those who have lent on corporation and other local loans, colonial and foreign loans, railway debenture stocks, preference shares; all salaried officials, including the whole of every branch of the public service, every salaried clerk, manager or official, until he got his salary raised. Every man who has saved a little money for his old age or for his family, and put it into

something safe, would lose three-eighths of his savings. Railway, gas, and other public companies, whose takings are limited by Act of Parliament, would be nearly or quite ruined, as their expenses would go up, but their revenue would remain limited. Railway companies' rates are probably not generally, or always, fully up to the legal maximum; otherwise railway dividends would cease. Take a typical railway with working expenses at 50 per cent. of its gross earnings, and preference charges 30 per cent., leaving 20 per cent. for dividend. The 30 per cent. would remain nominally the same (though with a reduced purchasing power and its margin of security gone), but the 50 per cent. would rise to 80, leaving nothing for dividend.

As to the public revenue, of course, the compulsory reduction of the value of the public debt would afford some relief to taxpayers (though not of a creditable kind), but all that part of the revenue which is not *ad-valorem*, such as much of the Customs and Excise, the Post Office, part of the stamps, licences, &c., would not rise in proportion to the increased nominal expenditure. Hence, I fear, some new taxes, or increase of existing taxes, would be needed.

The great wage-earning class would suffer, at any rate at first. The working man would find everything he has to buy wonderfully dearer; he would, of course, never be satisfied till his wages had been raised in full proportion at least; but what strikes, what long-continued and perplexing trade disturbances, would have to be gone through, before things were satisfactorily readjusted to the new level!

Many poor or insolvent countries have depreciated their standard by issuing inconvertible paper money and otherwise, but it would be without precedent for the great creditor country to do so. English people have lent many hundreds of millions in foreign loans, with principal and interest repayable in gold. Many or most of the American railways have been made with English money; many of the western

farmers own their land subject to mortgages placed in England by the loan companies; South America has been largely developed by English loans; and so have other countries and our own colonies. The interest on all this wealth is chiefly spent in England, and we should be making a present of $\frac{2}{3}$ ths of it to foreigners.

Again, London is the financial centre of the world. It is a position of great profit to England, but one that might be lost if any want of confidence in the security of capital arose. To tamper with the rights of creditors would be just the way to produce such want of confidence. A pound sterling is now a pound—*i.e.*, so much gold, all the world over. But, under a bimetallic system, it might be something quite different.

England and her colonies alone, of all countries, possess a perfectly honest, automatic standard; for the Bank of France and others, have the option of paying in silver token money, the Americans in silver certificates, and even Germany still has a large amount of old legal tender silver which is not intrinsically of full value.

It will be quite understood that these remarks apply only to some such unnatural ratio as the proposed $15\frac{1}{2}$ to 1; but on that basis they are extremely moderate, because if silver went down to anything near the cost of production, the results would be far more disastrous. But there is, I believe, not the slightest prospect of our Government agreeing to anything of the sort.

It is of course possible that some day a ratio may be proposed in accordance with the present value of the metals, such as 25 to 1; but at present nothing of the kind has been suggested, or is likely to be, as it is understood that those who are interested in silver have no desire for it. Of course a ratio in accordance with actual values would not produce the same immediate disturbance; but it would be very unwise for England to be beguiled into any such arrangement, since

we have no good evidences at present, what the future value of silver is likely to be, and its prospects are anything but hopeful; and since it has been shewn that any such scheme really means the substitution of an uncertain silver for the present steady gold standard.

THE EFFECT OF THE FALL IN THE VALUE OF SILVER ON FOREIGN COUNTRIES AND ON INDIA.

It may be proper, before closing, to allude to this much larger and more elaborate branch of this great subject; though the full consideration of every part of it would be beyond the scope of this Paper, even if I had the means at my command.

The Brussels Conference was proposed by the United States Government. They, having a much larger public revenue than they need, have been able, at the instance of the powerful silver party, to spend some of it in accumulating at Washington the enormous mass of silver above mentioned, and so far the silver certificates issued against it have circulated internally as legal tender in exchange for gold. This is condemned on all hands as being a dangerous financial measure, and there are abundant signs that it has almost reached its possible limit. People are getting uneasy about these certificates. Gold is beginning to leave the country, and there is some fear of a financial crisis in the States (which will also to some extent affect trade elsewhere). The silver party have been signally defeated at the recent election. It should also be noted that they are still a great debtor (as contrasted with a creditor) country, and that a lowering of the standard of value would suit the western farmers, with their mortgaged farms, and some other considerable interests opposed to ours. The Brussels Conference appears to have been a last desperate effort to induce Europe to relieve them of part of their difficulty, and in this

they have been supported by many individuals belonging to other countries, who trade with silver-using countries, or in one way and another have an interest in selling silver, or keeping up its price (if that were possible). On the failure of this attempt, it is understood that Congress is pretty certain to stop the purchases of silver. This expectation is a cause of grave anxiety to the Indian Government, as likely to occasion a further fall in the value of silver.

The Latin Union is not willing to adopt free coinage on any other basis than $15\frac{1}{2}$ to 1, because they will not face the loss in their large existing stock of silver, the Bank of France alone holding, I think, about £50,000,000 or £60,000,000, and the nation even more in circulation.

Austria has just decided on a gold standard, and neither Austria nor Germany are willing to concur in any such scheme, which alone would be fatal to its success.

The Indian Government is in a peculiar and unfortunate position, because they never had a gold or bimetallic standard, but with free coinage of silver only, and a revenue collected on a silver standard, they have borrowed in London about £100,000,000, the interest on which is payable in gold, and at the same time their important opium revenue is the subject of strong opposition in England, the House of Commons having on one occasion adopted a resolution in condemnation of it, as immoral and injurious.

The public services in India are very hard hit by the practical reduction in their pay, or at any rate in that part of it they may wish to remit to England. At first many of them were advocates of bimetallism, with the idea that this would really raise the value of silver, but I believe they are beginning to see that it could not do this, or permanently benefit them, but that it would only bring a similar misfortune upon their colleagues in England; and they have lately been asking for a gold standard for India.

It has been said that silver prices of commodities have

not risen in India, but I see that certain bimetallist writers state that this is only partially true, and that a rise in prices is gradually taking place, which is a further injury to the official class. And it appears that the Indian revenue (in rupees) has decidedly increased of late years.

There is agitation amongst the Lancashire manufacturers, because they say the fall in silver enables Indian cotton manufacturers, who pay wages in silver, to undersell those who have to pay wages in gold, both in India and to some extent in China and Japan; but I have heard one of the largest of them say that what they felt more was the constant fluctuation in the value of silver, and consequently in the exchanges; and for this last inconvenience they have chiefly to thank the United States Government and its speculations in silver. It may be remarked, on the other hand, that the extension of the cotton manufacture in India appears to have been inevitable, and that the low value of the rupee has caused great profits to English tea-planters and other Indian producers, and that Indian prosperity has enabled India to buy a considerably increased quantity of English manufactured goods.

It is also said that the price of wheat is kept low, to the injury of English growers, because the Indian grower is willing to accept for his wheat the same number of rupees as of old. This is partly true, but the effect of new railways, in newly opening up vast tracts of wheat-growing land, must not be overlooked. Upon this it may also be remarked, that if the British public could once be convinced that this very cheap wheat supply is obtained at too great a cost and risk in other ways (which is a view well worthy of consideration), all this might very simply be corrected by a moderate import duty.

I do not attempt to solve the question, what the Indian Government should do under the circumstances. At first sight one would suppose that the reduced value of the rupee

would enable the inhabitants to pay increased taxes of some sort, thus enabling the Government to raise, so far as may be necessary, the Indian salaries; but Indian authorities do not appear to favour that view. Mr. SAMUEL MONTAGU, M.P. (one of the members of the Gold and Silver Commission who favoured bimetallism), has, I see, lately in a review article, advised the Government to suspend the free coinage of silver in India, with the view of ultimately introducing a gold standard. A proposal of this kind was submitted as long ago as 1878 by the Indian to the Home Government, but the latter appear to have objected, chiefly on the ground that (without a gold currency) this would amount to establishing an inconvertible token currency, and also, because the stopping of free coinage would probably cause a further fall in the value of uncoined silver. In a constitutional country it might be difficult to pass a measure placing the standard of value so entirely in the hands of the Government; but judiciously and cautiously carried out by a wise Government, such a plan might probably be made the means of gradually and moderately re-establishing the value of the rupee, beyond its mere value as silver, and relieving the English and Indian interests which are now suffering, without the need of increased taxation. But some writers assert that such a measure would produce dangerous discontent throughout the Indian population.

One of the representatives at the Brussels Conference asked the representatives of the United States whether there was any prospect of a tax upon the production of silver; but he was told there was not the slightest prospect of such a measure. Some agreement between the silver-mining countries to greatly restrict the production of silver, would clearly be, theoretically, the best way of remedying the evils caused by its over-production; but that seems to be the last thing the silver-mining countries contemplate or would agree to. They have caused the mischief of which

they complain, but they are not disposed to cure it by limiting their own special industry.

CONCLUSION.

Within the necessary limits of a Paper to be read at one of our Meetings, it is, of course, impossible to attempt more than a short summary of this great question. I have tried to do this fairly and clearly, and in such a way as to enable you to form your own opinions upon it. The facts up to 1868 I have taken almost entirely from the Report of the Gold and Silver Commission. For the production of gold and silver since the date dealt with in that Report, and other recent changes, I have referred to several publications of the past year.

If you think the matter out, I believe you will find that the following propositions are demonstrably true, and that they very much simplify the problem:—

1st. The bimetallic theory is an illusion, because there never were and never can be, two separate and *effective* standards of value, in the same country and at the same time.

2nd. Universal bimetallism is practically impossible, because the nations will not and cannot agree on a ratio.

3rd. If it were practicable, it would amount to the same thing as creating a single silver standard for the world. Gold coins would still be used in some countries, as being the most convenient currency, and gold might continue to some extent, under certain circumstances mentioned above, to be used for bank reserves; but it would wholly cease to be a real or effective standard of value. The ratio fixed on, would be very important, not so much in its direct relation to gold, as because it would settle the weight of silver constituting the new units of value, which would take the names of the old discarded ones, such as the pound sterling, the franc, the dollar, and the mark.

THE CURRENCY QUESTION AND LAND.

BY A. GODDARD (PROFESSIONAL ASSOCIATE).

*Read at the Ordinary General Meeting of THE SURVEYORS' INSTITUTION,
Monday, January 9th, 1893.*

CHAS. J. SHOPPEE (PRESIDENT) IN THE CHAIR.

At a time when the heavy cloud of depression is upon us, when strikes and rumours of strikes are frequent, when each year as it passes seems to vie with the last in its gloomy retrospect and still more gloomy outlook, until at the present time the very climax seems to be reached and an exceeding bitter cry arises from the entire working population that their burdens are greater than they can bear—at such a time I think no apology seems needed for helping to call attention to a policy which many of our most able economists and statesmen look upon as, if not a universal cure, at least one which will check the ravages of disease and bring back a healthy complexion to commercial enterprise. They contend that the almost unprecedented fall in prices, which has occurred during the last 18 years, is owing to the scarcity of our circulating medium—*i.e.*, money—for trade purposes: that this scarcity can be traced to the action of certain European States and the United States of America in demonetising silver, a metal which had fulfilled the functions of money from the very earliest times and which is still practically the sole medium of exchange of two-thirds of the human race: and that this

scarcity of money has given rise to great instability in all commercial transactions.

The landowner, the farmer, and the labourer, however, are still scared by any mention of currency questions, not recognising that the great disruption of trade, which affects them to an equal if not greater extent than the Lancashire millowner and artisan, may be closely allied with these very questions. Instead of being attracted by a subject which so closely concerns them, they pin their faith to proposals for Fair Trade, a more equable division of the burden of taxation, small holdings, increased facilities for obtaining allotments, and the like: proposals which might or might not have the beneficial effect for which they hope.

I think that all will agree that the depression of to-day is one of price; all classes cry out that they can get no money for their various commodities—the landowner can get no interest on his outlay in the shape of rent, the farmer sells his wheat and other produce at a loss, the manufacturer complains that his goods have to be sold at a price giving no fair return for his work and the capital invested in his business, and the labourer that the money return for his labour is inadequate. Were this the result of some calamity, a disastrous war, terrible famine, or some such visitation of Providence, we could but sit still and bear it with what equanimity we might be able to muster. But we have been a prey to none of these disasters, at no time has trade seemed to have better opportunities than at present, machinery of all kinds has been improved, railways and steam vessels can carry our products to all parts of the world in half the time and at half the cost of a few decades back, and science has allied herself with practice to still further urge on the march of civilisation and progress.

The millennium would seem to be at hand.

How, then, is it that our producing classes cry out that they can get no money for what they have to sell, whether corn, merchandise, or labour?

To what can we attribute the universal complaint that trade is bad? Can the action of a few states 20 years ago have had such disastrous effects as these? My answer to this is unequivocally Yes, as is demonstrated by a simple but at the same time an important economic law, namely, that the balance between money on the one hand and commodities on the other varies in proportion to the plentifulness or scarcity of one or the other.

If money is plentiful, the farmer will have to take less wheat to market, to exchange into a certain number of sovereigns. If it is scarce and dear, he will have to take a greater quantity; in other words, prices will have fallen or, perhaps more correctly, money will have appreciated in value. Now, our contention is that the effect of the demonetisation of silver, at a time when the output of gold was steadily decreasing, and when greater demands were made upon the monetary stock by the wants of an increasing population and trade, was to artificially inflate the value of gold, and thereby bring down the value of land, &c., measured in terms of gold, with a run.

MR. MORTON FREWEN makes use of a simile which exactly represents the effect demonetisation of silver might be expected to have on prices generally. Imagine a pair of scales on one side of which are placed all the commodities of the world, on the other the equivalent in gold and silver coin: the two sides balance each other, such variation as there may be, being slight and readily assignable to natural causes such as over production on the one side or the other. These variations, too, will be steady: there will be no sudden increase in the

weight of one side as against the other, for over-production will ever die a natural death, the mere fact of any article being produced in excess of the demand for it, tending to stay its production. Suppose, however, silver is, without warning, removed from the scale, will not the beam immediately start up on the side deprived of its weight, and the ratio between the commodities on the one side and the gold on the other be entirely altered, the former sinking lower and the latter rising higher year by year, as the gold output of the world decreases or as greater demands are made upon it by an increasing population?

It is therefore plain that appreciation of gold and fall in price are merely synonymous terms, depending upon whether we take money or commodities as the standard of comparison; and also that the withdrawal of silver from the currency has been the chief factor in causing an artificial increase in the value of gold. It may, however, be said that, in the case of a country such as our own, incapable of supporting its own people, a period of low prices is not an unmixed evil. That is admitted, but in answer to this let me point out the great difference which exists between a fall in price owing to improvements in machinery and the like, and a fall caused by a scarcity of money. The one is caused by a diminution in the cost of production, and will be more than compensated for by increased consumption; the other is an artificial fall bringing something very like ruin to the producer, with no corresponding benefit to the consumer, for he will have less money to spend.

We have no desire to artificially inflate prices, but we do ask for a standard which will remain fairly stable in value, and not fluctuate as our present one has done, rising 37 per cent. in eighteen years, so that it is practically

impossible to estimate one's assets and liabilities in the near future, and many trades have degenerated into a mere gamble.

That an expanded currency is attended by general prosperity, whilst the reverse is the case in times of contraction, is more clearly demonstrated by historical experience than any arguments that I can use. A brief sketch of the world's monetary history may therefore be not out of place.

Nearly 1,900 years ago Rome was at the zenith of her power. Her armies penetrated north, south, east, and west, conquering and colonising as they went, pouring countless riches into the lap of the mother city. The output of the mines of Greece and Spain was at its height. Slave labour, provided by conquered races, was abundant and cheap. Civilisation and progress, as shown by the art and letters of the day, were almost as advanced as at the present time.

It has been estimated that about this time there were over 300 millions sterling of money in Rome, an amount nearly three times as much as we have in Great Britain now. The enormous production of gold and silver, however, could not continue: mines began to give out, and by degrees the art of abstracting the precious metals was to a great extent lost.

The progress of civilisation was retarded proportionately with the contracted currency, wear and tear of coined money and its abstraction for the arts going still further to aid in this contraction. "The fall of the Roman Empire," says Sir ARCHIBALD ALISON, in his "History of Europe," "so long ascribed, in ignorance, to slavery, heathenism, and moral corruption, was in reality brought about by a decline in the silver and gold mines of Spain and Greece."

Concerning the period between the dismemberment of the Roman Empire and the discovery of America, history

tells us but little, but enough is known for us to say that the 300 millions sterling of the Roman period had dwindled to the inadequate sum of 35 millions for the use of all Europe.

Prices had fallen in proportion, so that between the 15th and 16th centuries land could be bought at £6 per acre, wheat at 8s. per quarter, and other produce at correspondingly low prices. A great change, however, was at hand. At the end of the 15th century COLUMBUS discovered America, and thus began a new era of prosperity for the Old World. An impetus was given to all commercial enterprise, and England, Spain, and Portugal vied with each other in opening out the resources of the New World. Europe, which had long languished, and was seemingly *in extremis*, was revived, and had new life put into her veins by the influx of silver from the West, which, circulating through her whole system, gave life and hope to every class, and birth to a bold and hardy race of adventurers, to whose existence we owe one of the brightest pages of history. Fascinated by tales of fabulous wealth, they poured over to the new continent, bringing back shiploads of treasure, and giving rise to an expansion of trade and a renewal of prosperity, the extent of which we can hardly overestimate. Within a century from the discovery of America the 35 millions of money composing the entire wealth of Europe had leaped up to 140 millions, and the prices of land, labour, and wheat had risen in proportion. The mints of Europe were, at the time of which I speak, open to the free coinage of silver. If they had been hampered by a law prohibiting the coinage of the white metal, will anyone maintain that prices would have risen in the same way? Let us suppose that, instead of silver, some other valuable substance, but one which, from the nature of it, could not be stamped into money, had been found. If diamonds had been imported into Europe in the profusion

silver was, would they have had the same effect in changing the entire conditions of life, in causing prices to give the bound forward which is one of the most marked features of the age? Would they not merely have caused the value of those stones already in Europe to be lessened? Fortunately the men of that day laboured under no such monetary disabilities as those which oppress their descendants of to-day. Gold and silver indiscriminately was money to them, so that any scarcity of the one might be balanced by abundance of the other, and the ratio between the circulating medium and the necessities of life kept fairly stable. It was left, however, to a later age than the 16th century to devise such a policy as this, whereby the old text that "Unto him who hath shall it be given, and "from him who hath not shall be taken away even that which "he hath" is indeed rendered true. The plutocracy, the creditor class, a small wealthy minority of drones, is to be benefited at the expense of the honey-makers, the productive class, who form that large majority the debtor class. Contracts or debts entered into before the demonetisation of silver must now be paid in gold alone, which has immensely appreciated in value owing to this unjust law, so that he who contracted to pay the value of 100 qrs. of wheat or 100 acres of land now finds his liability amounts to nearly 50 per cent. more. The effect of this upon the mortgagor, or upon those whose property is charged with fixed payments, is clear—their money liability remains the same, but the proportion of the rents or produce required to discharge their liability is greatly increased: so much so that it is no uncommon thing to hear of properties, which formerly were considered more than ample security for the sums advanced upon them, now being sold for considerably less than the mortgage money.

The flow of silver and gold from America continued

sufficiently for the increasing wants of Europe up to the beginning of the 19th century, so that in 1809 the monetary stock amounted to 380 millions. History, however, repeats itself, and with the abandonment of the worked-out mines of America and Brazil, the first half of the present century experienced the difficulties and depression which had been felt 1,200 years before, on the giving out of the mines of Spain and Greece. In spite of the wants of an increasing population the monetary stock of Europe fell to 313 millions in 1830, and during this shrinkage came those troublous times which are even now modern history. It was during this period that England, in order to artificially lower prices inflated by a long European war, inaugurated a policy which, though its effects were only slight at the time, was the first step in the direction of a silver boycott, a step which has since been followed by the great commercial nations of Europe and America. It was in 1816 that Lord LIVERPOOL, the then Prime Minister, stayed the free coinage of silver at our mint and made gold the only legal standard in this country. The effect of this action of the English Government, in causing a further contraction of the currency, was not marked, for the mints of France and the other great powers, which were, indeed, mainly silver-using countries, remained open to the white metal, so that any owner of silver bullion had only to take it to the mint of France to have it stamped into money at the rate of $15\frac{1}{2}$ of silver to one of gold. Consequently the balance between the two metals was kept stable, for no one would sell silver at a market in which the price offered was less than that obtainable in France.

As, however, I have already said, the supplies of precious metals from America were rapidly falling off, less gold and silver bullion was forthcoming for coinage at European mints, and wear and tear and loss by abstraction for the

arts were all tending to render the monetary stock too small for the demands made upon it. The same causes were at work which had destroyed the greatest empire the world has ever seen, and given rise to the dismal gloom of the Dark Ages: the effect, as was to be expected, was the same, namely, a perpendicular fall in the value of land, labour, and commodities of 50 or 60 per cent. between 1809 and 1849. The stagnation of trade was complete, property became a drug in the market, for who would think of buying land to-day when to-morrow it might be bought at a far lower price?

Looking back at this time one shudders to think what the results would have been had England's example in demone-tising silver been at once followed by the other powers. An already contracted currency, deprived of half its means of supply, would have utterly failed in providing for the wants of the world, universal bankruptcy being the result, followed by a reign of anarchy and bloodshed, by the side of which the horrors of the Reign of Terror would have been mere child's play, whilst the boasted civilisation of Europe might have receded to the level of the 15th century.

This, however, we were spared. Just as 200 years earlier the discovery of America had rescued the Middle Ages from the slough of poverty and depression, so did the great gold finds of 1850 in America and Australia exercise the same beneficial effect in restoring credit and putting fresh confidence and life into all classes, so much so that the next period of twenty years was undoubtedly the most prosperous the world has ever seen. A vista of universal prosperity was opened out; credit revived with an extended and ample currency; the capitalist found ready borrowers for his money at a fair rate of interest; the manufacturer, whose hand had been so long tied by low prices, was ready to extend his business; the farmer was enabled to make use of every

new means which science and art had discovered to increase the productiveness of his land ; and the landowner could afford to improve his property by draining, planting, putting up new buildings, and the like with the certainty of receiving back an increased rent in return for his outlay.

The exact converse of the effects of a scarcity of money was experienced, for prices, instead of tending to become lower, became higher, in spite of the policy of Free Trade which had just been inaugurated, and in spite of inventions of labour-saving machinery, and the quicker and cheaper transit due to the great extension of railways and steam vessels. The rise in value of property was no less marked. Manufacturers and others who were making large fortunes, became desirous of possessing country estates or of investing their surplus capital in land as being an investment which, although not giving the highest rate of interest, was looked upon as perfectly safe.

Thus arose a great demand for land, and owners who, a few years before, had been bowed down to the ground by the weight of mortgages and settlements were able, by selling the whole or a part of their property, to relieve themselves of their burdens and still have a handsome surplus in hand.

The tenant farmer, with increased credit and the value of his produce steadily rising, forgot to grumble at his rent and the badness of the seasons, in the new-born pleasure of a satisfactory balance at his banker's.

It is a common thing for a buyer of property to borrow a portion of the purchase money on mortgage, and if times are good and the value of the property is increasing he will readily do this, feeling sure that, in the event of an increase in the value of his purchase, he will be able to pay off the mortgage, the increase in the value being his own profit on the investment.

Let us suppose that a farmer is in the occupation of a

farm worth £5,000 which he is desirous of purchasing. He enters into negotiations with his landlord with the result that the property changes hands : not being able to spare so large a sum as £5,000 from the capital invested in his farming stock, he borrows £2,500 on mortgage, and is therefore practically half owner, the mortgagee being the owner of the other half. Land, however, increases in value, and in a few years the farm is worth 50 per cent. more ; the farmer then has become owner of a two-thirds share, and may either continue to pay interest on the mortgage money, which is now small compared with the annual value of the holding, or buy up the remaining one-third share by paying off the mortgagee. The case of the farmer may be multiplied indefinitely to include any person wishing to invest his money in real property. And under circumstances when a result such as this is not only possible but probable, it is easy to understand that the demand for good property investments will be great, and thus the probability of property increasing in value maintained.

But now to reverse the picture : our friend the farmer has fallen on evil times, having bought at a time of high prices, at a time when money was abundant, and therefore cheap as measured against commodities, he finds that his purchase is steadily decreasing in value owing to money becoming scarce and dear, so that, instead of being half owner of the farm, each year sees his proportion become smaller, whilst that of the mortgagee becomes greater. The currency continuing to contract, and prices having dropped 50 per cent., his farm is now only worth £2,500, the amount originally lent upon it, his half of the purchase money being entirely sunk, and the mortgagee practically owner, whilst he stands in a position far worse than that of tenant which he held before his purchase. Nominally owner, he cannot give notice to leave if a reduction in the interest which he has yearly to

pay the mortgagee is not made—a payment which, at the time of his purchase, seemed insignificant enough compared with the value of the land, but which has since assumed the proportions of a rack rent, and is scraped together each year with greater difficulty, the prices of his produce having fallen equally with the value of his farm.

The mortgagee, fearful of losing a portion of his capital, determines to exact his pound of flesh, and will not forego one penny of his interest, thereby hastening the day when the payment can no longer be made, the mortgage must be foreclosed, and the unfortunate mortgagor, whose prospects at first seemed so bright, ruined. No wonder, therefore, that property is practically unsaleable on a falling market, if the man of enterprise is liable to find himself worse off than he who remains plodding along with no ambition to better his position. The effects of the appreciation of gold is of special interest to us at the present time when the provisions of the Small Holdings Act are being put into force; for, in the event of a considerable demand being made for small holdings, a large class will be created standing in the position of the farmer in our previous supposition with the County Council as the mortgagee; if all goes well and prices are maintained, the yeoman will pay his annual instalments regularly and cheerfully, but, if a further fall occurs, as under the present conditions we bimetallists predict, will not he cry out that the price paid was too great, or, forgetting the incidence of his payments, that small holdings are burdened with a heavy tax for the benefit of larger properties?

The chance, however, of such depreciation seemed slight during the prosperous times which followed the great gold discoveries. America and Australia poured their new-found wealth into Europe, whose mints were ever ready to put the stamp of sterling money upon it, and the impetus given by

this abundance of money to trade and the demand for land seemed likely to continue. But again abundance was to give place to scarcity, not, as before, owing to natural causes, such as the giving out of old mines and the failure to discover new ones, but by the action of man himself. From the earliest times, ever since money superseded barter as a means of exchange, silver had, allied with gold, exercised the functions of money. But man, puffed up by success, determined to change all that, the gifts of Providence were to be refused, silver was to be divorced from gold, and the yellow metal alone was to bear the entire burden of satisfying the increasing demands which the prosperity of the past few years had made on the currency. And with what result? Gold, deprived of the restraining influence of silver, became immensely appreciated in value when measured against property or any other commodity—in other words, prices generally began to sink, checking at once the growing enterprise engendered by a period of high prices and sound credit. It is almost beyond belief that popular opinion would have sanctioned such a policy had its results been foreseen. Unfortunately, ignorance on currency questions was even greater at that period than at the present day, whilst the passions aroused by a war between two great European powers still further blinded the eyes of the public, and allowed an act which was to halve the circulating medium and undo all the benefits conferred by an ample currency to pass unnoticed: this too at a time when the flow of gold from America and Australia was diminishing. Let us glance at the monetary status of the great European nations 20 years ago. England had long adopted a gold standard, but her having done so had not influenced the position of silver, for reasons I have already stated. Germany had only a silver currency; whilst France had been joined by a group of States, forming what was known

as the Latin Union, whose mints were open to the free coinage of silver and gold at a fixed ratio of $15\frac{1}{2}$ of silver to 1 of gold.

At the end of the Franco-German war, however, in 1873, Germany, having exacted a war indemnity of 200 millions sterling from France, and having long been envious of the superior trade of England, which was supposed to be in some way owing to her having adopted a gold standard, thought an opportunity had presented itself of following England's example and at the same time of administering a further crushing blow to France, from the effects of which she might never recover. Consequently a change from a silver to a gold standard was determined upon, and the free coinage of silver stopped. France was, with reason, fearful of being flooded with silver from Germany, which might be exchanged for gold at her mint, and so the whole country drained of the more precious metal: therefore partly in fear of this, and partly as a means of retaliation against the action of Germany, she also decided on restricting the coinage of silver, an example which was followed by Italy, Belgium, and the other countries forming the Latin Union. The die was cast! The divorce of silver from gold in Europe was an accomplished fact, and for the future the volume of money for the use of man was halved! What matter that the debtor must groan under an increasing burden of debt? Would not the creditor become a still greater power than formerly owing to the enhanced value of his gold?

On the shoulders of the creditor party, the gold bugs as they are called, must be laid the blame of inducing even America, the greatest silver-producing country of the world, to follow the example of the European nations; a suicidal policy on her part, as, owing to the expenses of her civil war, money was scarce in the country and could only be retained by a high scale of tariffs, which, though it might tend to

foster internal trade, would only do so in the way that the artificial heat of a greenhouse forces on an exotic, which withers and dies when exposed to the outer air.

I need not dilate upon the means by which this change of policy was brought about. Suffice to say the Bill was passed by a trick which, when discovered, aroused the popular outcry resulting in the passing of the Bland Act, which made silver again legal tender, although it restricted its coinage to a minimum of 2 million dollars and a maximum of 4 million dollars a month, the former being the amount generally adhered to, representing a sum entirely inadequate to counteract the influence which the closing of the European mints had in shortening the amount of money available for general use.

Such, then, is a short sketch of the monetary history of that part of the world which more nearly concerns us; and I think enough has been said to prove conclusively that the time of monetary abundance is a time of prosperity, whilst the reign of depression and stagnation is closely allied with a period of shortened currency.

But a question which affects property interests to an equal extent as the fall in values and prices of produce, is the great increase in all kinds of debt both public and private; an increase which is, of course, more severely felt in cases where the debt was contracted before the demonetisation of silver, but which is also a heavy burden in the case of debts of more recent date. The large proportion of properties are subject to certain annual payments in the shape of interest on mortgages, settlements, &c., which do not diminish with lowered rents and profits. So that in many cases the income of landowners has been greatly reduced, if not entirely eaten up, by the increased proportion which the payments bear to the receipts. Take the case of a small landowner farming his own land, who borrows £500, with wheat at 50s. per

quarter : he could pay off his debt with 200 quarters of wheat, but if prices fall to 30s. per quarter he will want 333 quarters, and the same holds good if he wishes to pay in bullocks or any other form of agricultural produce. I am perfectly well aware that our opponents stigmatise our proposals as an insidious form of protection, but are we not rather trying to carry out the true principles of Free Trade, in doing away with the protection which has lately been accorded to gold? Cheapness may be bought at too great a price; and a system which exchanges prosperity for stagnation, high wages for low ones, cannot be profitable to the nation making use of it. COBDEN's prophecy that, within 10 years of England's opening her ports, all nations would follow her example and become Free Traders, has turned out false : year by year the tariffs of foreign countries are raised against our exports, but were a period of expanded currency and high prices again the order of the day we should be nearer the consummation of COBDEN's prophecy than we have ever been. There is no doubt that the effects of a shortened currency have been felt equally on the Continent and in America, and the high tariffs which have been exacted are chiefly owing to this cause, in the hope that by artificially raising prices a reaction might be effected which would stimulate internal industry and bring about a return of prosperity. We are also accused of trying to benefit the debtor classes at the expense of the creditors, though, at a time when the loudest outcry is in favour of a policy bringing the greatest good to the greatest number, such an accusation, even if true, would be of little weight. What, however, are the facts? At the present time the creditor is enormously benefited by the decrease in the value of commodities as compared with gold, and, as the value of gold appreciates, the benefit to the creditor and burden on the debtor correspondingly increases.

A mortgagor, who borrowed money when it was plentiful and cheap, calculated that he could pay the yearly interest without crippling himself: if, however, anything should occur rendering money scarce and dear, it would have the effect of making his debt greater. He would have to sell more land, corn, iron, or merchandise, in order to make the money required as interest, whilst the mortgagee would exact the original sum and reap the advantage of any bonus which had accrued to it owing to its increased purchasing power. And such a state of things has been brought about by the silver boycott, so that the borrower of to-day cannot feel sure that his debt will not have largely increased to-morrow, for increase of debt goes hand in hand with appreciation of money. If then the remonetisation of silver would increase the amount of available money, would it not tend to put the relations between borrower and lender on a more stable footing, and, while inflicting no hardship on the latter, prevent the burden upon the former being increased through no fault of his own? Public indebtedness is affected in the same way, so that although our National Debt has been reduced as counted in sovereigns, yet, if we calculate it in terms of commodities, we find it has greatly swollen. It should be remembered that upwards of 500 millions of the National Debt was borrowed on the express terms that both principal and interest should be repaid in gold or silver, or both —i.e., on a bimetallic basis. So also in other countries, and as Judge HOOPER, an eminent American writer on this subject, so forcibly says:—"The alteration of legal tender laws, after the creation of the great debts of the world, constitutes the most colossal fraud that was ever perpetrated in all the history of the human race." It is unnecessary for me to remind you how the burden of debt upon the Indian Government has been increased by these means, so that, year by year, the difficulty of bringing in a satisfactory budget is

made greater. But I feel sure that all will agree that if, owing to further falls in the value of the rupee, India should become bankrupt, it would deal a deadly blow to this country.

For the first seventy years of the present century gold and silver were so closely allied as to be practically one, just as though the various coins in use had been made of an amalgam formed partly of gold and partly of silver. The ratio of $15\frac{1}{2}$ of silver to 1 of gold remained practically constant, such variations as there were being only between $15\frac{1}{4}$ and $15\frac{3}{4}$, and this in spite of the most enormous fluctuations in the annual output of the two metals; for, at the beginning of this century, 50 of silver was produced to 1 of gold, while between 1850 and 1860 the ratio was $4\frac{1}{2}$ of silver to 1 of gold.

These facts, I think, destroy the argument which the adversaries of silver are so fond of putting forward, namely, that it would be impossible to fix upon a ratio between the metals which would remain stable. If England would join with America, Germany, and France, who are eager for such a combination, but wait for us to make the first advances, a ratio could without doubt be established which would fluctuate even less than the $15\frac{1}{2}$ to 1 which was kept constant and stable by the action of France and the Latin Union alone during the greater part of this century.

This is borne out by the report of the Royal Commission.

And now I have come to one of the most important results which has followed the demonetisation of silver. I refer to its great depreciation in value compared with gold. For seventy years the ratio of $15\frac{1}{2}$ to 1 did not vary, but immediately after the break-up of the Latin Union silver began to fall rapidly, and the variations now in a single year are ten times as great as they were formerly in seventy

years. The present ratio between gold and silver varies from 18 to 1 to 24 to 1, nor is this fall difficult to understand. If I may make use of an example which has, I think, been used before, let us suppose that for many years wool and cotton goods have been used as the sole articles of clothing : a law is passed forbidding the use of wool for that purpose : a child at school would tell us that the result would be to appreciate the value of cotton and depreciate the value of wool, and this is the result in the case of gold and silver.

The effect of a fixed ratio between gold and silver on the trade relationship between gold and silver using countries is well shown by the following quotation from the report of the Royal Commission :—"So long as the ratio between gold and silver remained approximately stable the two metals might be practically considered one, and the relations of exchange between a country with a gold standard, such as England, and a country with a silver standard, such as India, did not differ in any essential particular from the relations of exchange between two countries with a gold standard, such as England and the United States, or England and Australia. A quasi-par of exchange was established between the sovereign and the rupee, which, though not absolute as in the case of coins of the same metal, fluctuated within narrow limits."

When, however, the stability of the relations between gold and silver was disturbed, the fall in value of silver and the constant variations in its value as compared with gold, did away with the ease with which business transactions could be carried on between England and silver-using countries, and to a great measure dislocated our trade with them, and, what is more, even created a bonus in their favour when competing against our own producers.

If we take India as an example as being the great silver-using country most nearly connected with us, the fall of the

rupee as compared with the sovereign will illustrate our disabilities in trading with silver countries under the present system. I need hardly say that the rupee is a coin about the size of our florin, and, when at par, of about the same value; thus, before 1873, ten rupees went to a pound, and it did not matter much whether a merchant was paid in the silver rupee or the golden sovereign. After the European mints were closed to silver, however, this fixity of exchange was lost, and the value of the rupee declined yearly, till to-day it is only worth about 1s. 3d. It is easy to understand how this affects our trade with India, and equally with all other silver-using countries. Formerly the manufacturer could send £1,000 worth of goods to India and receive in return coin, whether silver or gold, of £1,000 value; now the same goods are sent out, but are paid for in silver, *i.e.*, by 10,000 rupees, which is only equal to £625 with the rupee at 1s. 3d., or, if it was to fall to 1s., £500. Thus the English manufacturer has either to sell his goods at a price leaving no margin of profit, or to raise his prices, an alternative which is daily becoming more impracticable owing to competition from the numerous mills opened in India itself, which, aided by cheap labour and cheap transit on Government railways, and still further owing to their being under no disabilities of exchange, are enabled to undersell us not only in India itself, but in China and all other silver-using countries. And to such an extent have the Bombay millowners made use of their advantages as against the Englishman, that their trade with India, China, and Japan is now double as large as our own. This is a matter of supreme importance not only to the capitalist, but to the working man, for the former may either close his works, no doubt at great loss, or open a mill in a silver country himself, where he will reap the benefits I have mentioned; whilst the working man, having lost the market for his labour in this country, will be unable

to find one abroad where the climate and competition from men willing to work for a few pence a day will be against him. The trades unions of Lancashire and the North, ever to the fore in questions affecting our national trade, have long recognised this, and are using every effort to make the remonetisation of silver a burning question; and it is to be hoped that their intelligence may spread to other labour organisations whose combined vote would soon ring out the death-knell of a policy which is going far to destroy England's boasted supremacy in trade. You will forgive this divergence from my subject, for the prosperity of trade is so closely allied with that of agriculture, that anything which affects the one is of almost equal importance to the other.

The agriculturist is in no better position than the manufacturer. On all sides we hear that wheat, once our staple crop, cannot be grown with profit at the prices which now prevail. India is a great wheat-growing country, and it is her produce which has caused the value of a quarter of wheat to fall to under 30s., for the difference of exchange between the rupee and the sovereign grants a bonus to the Indian grower which would enable him to undersell any gold country in the world. To make this clear it is necessary to understand that the value of the rupee as measured against commodities has not varied to any great extent in India, so that a grower who receives 20 rupees for his wheat now is in no worse position than he would have been 20 years ago. But what is our position? Indian wheat is sent to this country and sold for, say, 30s. a quarter, the payment being in gold: on exchanging this gold into rupees we find that we receive 24 rupees, equal in India to 48s., for our 30s. in gold.

Thus, whilst the Englishman is receiving 30s. a quarter for his wheat, the Indian can make, after deducting carriage and other expenses, over 40s. It is useless to pretend that

the fall in the price of wheat is due to American competition, for the American himself declares he cannot grow it with profit at the price, and year by year we shall see the American exports to this country diminish. On the other hand, India can afford to sell wheat here at 20s. a quarter if the rupee falls to 1s.—a price which would at once destroy its cultivation in this country, and so throw out of employment more and more of our agricultural labourers, who, drifting to the towns, would increase the competition and lower the rate of wages in the already overstocked labour market. During the past cereal year over seven million quarters of wheat were exported from India to this country, and this amount will be annually increased as greater profits accrue to the Indian grower with the fall of the rupee. For years past the fluctuations in the value of the rupee have been followed by equal fluctuations in the price of wheat : when the rupee is high wheat makes a good price, and when the rupee is low wheat makes a bad price—a fact which I think conclusively proves that the price of wheat is not governed by the American exports, but by the bonus given to India.

I fear I have already made too great demands upon your patience and indulgence, or I might dilate upon how largely the dangers and difficulties attending the settlement of the land question in Ireland have been increased by our present policy ; how the demands upon gold will become greater as Australia, America, and Africa become more fully developed, and as Austria acquires the £35,000,000 on which to base her recently adopted gold standard ; and how, if no change were made, our former prophecies would still hold good in lower prices and increased stagnation.

What arguments of any weight can be advanced against a return to that system which wedded silver and gold as coin for the use of man for so many centuries ?

Expansion of currency has been clearly proved by the experience of all history to mean increase of trade, prosperity, and civilisation ; contraction has always been followed by depression and stagnation. To us, the great traders of the world, it would mean that our commerce with Europe and America would be increased by a general lowering of tariffs, while our trade with India and the East would no longer be subjected to the difficulties and loss arising between nations using a different medium of exchange. The benefits arising out of an increase in trade would be felt by every class throughout the country : disagreements between master and man would be stayed ; the farm labourer would not be tempted to migrate to the town, for his master, no longer hampered by too low prices, would keep more land under cultivation, and pay higher wages ; and the landowner would breathe more freely loosed from the weight of debt now lying upon his shoulders. That a return to the bi-metallic system is within the range of possibility is proved by the fact that an International Monetary Conference has recently been sitting in Brussels, at which representatives of the English Government were present. Let us then hope that the result of their deliberations may be the first step in the direction of an international agreement which will restore silver to its former position, and in so doing at once double the wealth of man and effect a stability between money and commodities which will give birth to an era of prosperity unsurpassed by that following the discovery of America, or that which is associated with the great gold discoveries of this century.

In conclusion, gentlemen, I have only to thank you for the attention which you have given to the remarks of one who, however deeply interested in, is still only a student of the great facts of, political economy.

Mr. E. P. SQUAREY (Past-President) said that, however the Members present might differ in their opinions on the very abstruse subject dealt with in Mr. TUCKETT's and Mr. GODDARD's Papers, all would agree with him that a very hearty vote of thanks was due to those gentlemen for the careful and honest way in which they had stated the arguments on either side. Mr. TUCKETT was well known to the Members, but Mr. GODDARD was a young man on the threshold of life, and the production with which he had favoured the Institution that evening gave promise of future success, which he trusted, and believed, would be realised. It would, of course, be impossible to discuss two such elaborate Papers without previously perusing them, and he would, he felt sure, be meeting the wishes of the Members by suggesting that the discussion should stand over until the next Meeting.

Mr. R. C. DRIVER (Past-President) said that he very gladly seconded the vote of thanks to Mr. TUCKETT and Mr. GODDARD for their able and interesting Papers. It was especially gratifying to find a young Member willing and able to prepare such a lucid and thoughtful treatise on at least one aspect of this very difficult subject. The fact that so many of the younger Members were coming forward at the present time with contributions to the "Transactions" and "Professional Notes," was, he ventured to think, attributable, in a large measure, to the great advances which they had made in recent years in the direction of Professional Education, and the circumstance was, he considered, one of happy augury for the future of the Institution.

The vote of thanks having been put, and carried unanimously, the discussion of the Papers was, on the motion of Mr. SQUAREY, deferred until the next Meeting.

AT
THE ORDINARY GENERAL MEETING

Held on Monday, January 23rd, 1893.

CHARLES JOHN SHOPPEE (PRESIDENT) IN THE CHAIR.

The discussion on Mr. TUCKETT's and Mr. GODDARD's Papers was opened by Mr. E. P. SQUAREY (Past-President), whose remarks, in his absence, owing to indisposition, were read by THE SECRETARY.

Mr. SQUAREY said that a perusal of the Papers read a fortnight since, when he had the pleasure to move the adjournment, had in no degree led him to withdraw the approval then expressed. But, from his point of view, there were statements in Mr. TUCKETT's Paper on which criticism was fully justified. That Paper implied that the bimetallic proposals were absolutely impracticable and untenable.

He need not refer in detail to the antiquity of the double standard disclosed in the interesting letter of Mr. MAX MÜLLER to the *Times*, December 28th, 1892, showing the adoption by the Egyptians and Babylonians, in the height of their civilisation, of a standard of 1 to $12\frac{1}{2}$ and 1 to $13\frac{1}{2}$.

Apart from the general consensus of opinion in favour of the theory of bimetallism among the Royal Commissioners, he would call attention to the utterances of the late Sir ROBERT PEEL, and to the views of ALEXANDER BARING—the first Lord ASHBURTON—an authority on commercial finance, second to none.

In his speech on the Bank Act of 1884, Sir ROBERT

PEEL said of the principle of the metallic standard:—"It must at the same time be admitted that it would be quite consistent with that principle to adopt some other measure of value than that which we have adopted. It would be consistent with that principle to select silver instead of gold as the standard, or to have a mixed standard of gold and silver, *the relative value of the two metals being determined*, or to dispense with gold coin altogether, and regulate the amount and value of the paper currency by making it convertible only, according to the proposal of Mr. RICARDO, into gold bullion of a given minimum amount."

In giving evidence in 1828 as to the consequences which had followed a blind adherence to Lord LIVERPOOL'S doctrines, Lord ASHBURTON said—

"he had always thought that it was possible and desirable to maintain in this country a silver currency as a legal tender founded on the proportion of silver to gold established in the currency of France, or something very near it."

And he gave as a reason for that opinion—

"that a sudden change from peace to war, a bad harvest, or a panic year arising from over-trading and other causes, imposes upon the Bank of England, which is the heart of all our circulation, the necessity, for the purpose of protecting itself, to stop the egress of specie, sometimes even to bring in large quantities into the country.

"Now it is evident that the Bank wishing to reinforce its supply of specie can do so with infinitely increased facility with the power of either drawing in gold or silver than if it were confined to only one of the metals."

These opinions of Lord ASHBURTON were given without any wish to stir in the matter, but merely as a contribution to the mass of knowledge on the subject in the possession of the Government.

On page 104 of Mr. TUCKETT'S Paper, he found the words:—"Again, bimetallists suggest that the prices of commodities are depressed by a scarcity of the circulating medium, owing to the demonetisation of silver in some countries. Such a thing might possibly happen, but I

“believe it is quite clear that nothing of the sort has happened yet.”

His (Mr. SQUAREY’S) belief was very distinct that it had happened, and was at present happening, and that a safe and honest increment of the circulating medium would certainly increase prices to a reasonable extent.

At page 105, Mr. TUCKETT referred to the increasing extension of banking facilities, as reducing the need for an addition to the circulating medium. This might be admitted, but the thought that every cheque or bill of exchange, every bank note issued, was entitled to be paid in gold, if demanded, must raise anxious reflections in the minds of thoughtful men who considered the unreasonable inadequacy of the reserves of bullion in the Bank of England to meet an excited united demand in this direction.

Two instances of suspension of the Bank Charter Act were well within his memory. The intense commercial mistrust, the paralysis of all trade, the almost complete inconvertibility of any securities, however sound, the crashing failure of great houses, and the threatened fall of others, greatly impressed him. Panic (unreasoning panic, perhaps) seized every one having business and commercial relations. Then, when sufficient devastating ruin and misery had arisen to warrant interference, the Cabinet met, and the Act was suspended. The rock in Threadneedle Street was touched by the Ministerial Rod; notes issued forth, and confidence was restored as if by magic. Why? Was the country richer than on the previous day? Had it more sheep, more cattle, a larger stock of goods in the mighty warehouses of London, Manchester, and Liverpool? Had it more ships, more iron, more coal? No! it was merely that the convertibility of goods, in which each man dealt, was assured by the reasonable increase of the medium by which trade is carried on.

Now, the bimetallists asked that, to avoid the recurrence of this inability by the Bank of England to meet its engagements in gold, it should take silver into partnership, and thus postpone, if not absolutely remove, the need of suspension of the Bank Charter Act.

On page 107, Mr. TUCKETT had a fling at the undefined proportion of silver to gold in the coming bimetallic future. He insisted that Mr. CHAPLIN would like $15\frac{1}{2}$ to 1—so would he (Mr. SQUAREY); but in the adjustment, more or less permanent, of such an important factor, every bimetallist would be willing that it should be settled by experts after careful discussion of the proportion which, under all the complex conditions by which they were surrounded, might be best adopted.

The adoption of bimetallism was referred to by Mr. TUCKETT as a tremendous change; but if he were to sleep until the year of its achievement, he would on awakening be quite unaware that any change had taken place, but would only rejoice with the bimetallist in the abundant, all-pervading, prosperity which he saw around him.

The index values of the *Economist*, to which Mr. TUCKETT referred, were well known to him, and brought his mind to a different conclusion. He remembered 1851, the date of the commencement of the Tables mentioned. It was a period which, but for present experiences, one would regard as of unparalleled low values. To say that the then values were only a little higher than the present values, seems a confirmation of the appreciation of gold, when one remembers the boom of prosperity which immediately followed the enormous Australian and Californian gold supplies, which prosperity was continuously maintained till the break-up of the Latin Union, and the consequent demonetisation of silver. There were gentlemen present who, more ably than himself, would deal with other points of Mr. TUCKETT'S

Paper, particularly as to depreciation of the Indian rupee and its effect on wheat values, so well handled in Mr. GODDARD's Paper; but he ventured to refer to the proposal of Mr. DE ROTHSCHILD, at the Brussels Conference, that the Western European nations should agree to buy annually five millions of silver, to arrest, if possible, its further fall, and that England should unite in this effort by making it a legal tender up to £5 instead of £2. Surely such an artificial effort, even if practicable, was less feasible or likely to operate satisfactorily than the adoption of the fixed ratio between the metals, when the question of the appreciation or depreciation of either would, as in the past, be quite unobserved by the countries using it.

The adoption of bimetallism might be more or less distant, but it had received increased impetus by the grave fall in prices in all home produce, due, he admitted, in a considerable degree to some of the causes referred to by Mr. TUCKETT at page 111.

It seemed to him that it was the workers and producers of all kinds whose interests were most gravely affected, and the question was for them to deal with. He desired not a mere temporary advance in prices by the settlement of this question (though that would, no doubt, be very acceptable), but rather that the home and foreign trade and industries, with which all interests were so absolutely bound up, might find some permanent and reliable basis of exchange on which to found their transactions.

When this end was attained—and he knew that it would come—the Lancashire looms would be restored to their old prosperity and profit; the English farmer, careless of competition with the fertile plains of the Punjab, or the black soil of Russia, would return to the cultivation of cereals on now disused land, when their market price bore some more reasonable relation to the cost of production; our

three hundred millions of fellow subjects in India, relieved of the unjust burden of taxation imposed by the discharge of her obligations in gold, and the suffering, patient, and loyal civil service, now disheartened and impoverished by the low standard in which they were paid, would advance in civilisation and wealth, unfettered by the present irritating, unsettled basis of exchange between India and the mother country.

The Right Hon. HENRY CHAPLIN, M.P. (Honorary Member), said it was a pleasure to him to accept the invitation to be present on this occasion and to take part in the discussion, because it was a question in which he had taken for a long time a great interest, and one which he regarded as being of the first importance to the great industry with which the Members of the Institution were so especially connected.

Moreover, he ventured to think that the fact that this subject had been selected for discussion by the Institution, composed as it was of practical and eminent men of business, from all parts of the country, was significant evidence of the progress it was making, and this, again, was a matter of lively satisfaction to those who, like himself, were convinced believers in the soundness of the theory which they advocated.

He had studied with attention the two very interesting Papers which were read at the opening of this discussion; although he owned he was opposed to the views expressed in the first of those Papers.

The author of the first stated that many of his friends complained that they did not understand bimetallism, and that his Paper was intended to aid them in forming a clearer view upon the subject. It was a very common and, he believed, a very true complaint; but, with great respect,

he questioned whether Mr. TUCKETT had entirely succeeded in his object, and more especially because in some of his facts he ventured to think that he was wrong.

With the permission of the Meeting, therefore, he would preface what he had to say by repeating the contention, which, in common with many of the bimetallists, he was prepared to maintain, viz. :—

(1) That up till the year 1873, all the business of the world was carried on under the full effects of the system known as bimetallism, and that the abandonment of that system and the attempt to carry on that business with no connecting link between the metals, was a new experiment in the history of the world ;

(2) That this experiment has been injurious to productive industry in the highest degree, and was largely accountable for the general and widespread depression in gold-using countries ; and

(3) That it is desirable to revert to the system which prevailed prior to 1873, and under the effects of which the commercial and industrial pre-eminence of this country was attained.

It was upon his ability to make good these propositions that he would ask for their support for the views he proposed to express that evening, and he would deal with each of them in turn.

Now, with regard to the first, he believed that there was a very general idea among those not acquainted with the subject that bimetallism was something new. It was nothing of the kind. The idea was a complete delusion. On the contrary, bimetallism was almost as old as the history of the world.

What was novel, he admitted, and it was the only thing which was new, connected with this question, was, the abandonment of that system, and the attempt by western

nations to carry on the business of the world upon a gold basis alone.

The oldest record of silver being legal tender money was contained, he believed, in Biblical history, 1860 years B.C., where we learn that the cave of Machpelah was paid for in silver—"400 shekels of silver, current money with the "merchant," to use the language in which the transaction is recorded. He might also cite in support of this assertion a most interesting statement recently published in the *Times* by Professor MAX MULLER. He says:—"It has been shown "that the ratio between silver and gold in the Egyptian "coins was always maintained at 1 to $12\frac{1}{2}$, while in "Babylonia, and all the countries which adopted the "Babylonian standard, it was 1 to $13\frac{1}{2}$, where, with "slight fluctuations, it was maintained for a great length "of time."

Professor MAX MULLER further stated that, from the sixteenth century B.C., or, if the statement is restricted to coined money, from the seventeenth century B.C., to nearly the present time, the appreciation was not more than $1\frac{2}{3}$ —that is, was limited to variations between $13\frac{1}{3}$ and 15. And that, too, in spite of the sudden influx at various times of one or the other of the precious metals.

This was a statement of singular significance, as would be seen when he came to show the enormous variation which has occurred in the relative value of the metals since 1873, and which has changed from something like $15\frac{1}{2}$ to 24 or 25 to 1 in these few years.

Coming down to later days. In this country it was the fact that for 540 years—*i.e.*, from 1257 up to 1797—gold and silver formed the legal tender money: that was to say, the British mint was open to the unrestricted coinage of both metals, and when coined at a given weight and fineness, the silver coins, as well as the gold coins, were

equally legal tender money, available for the discharge of debts to any amount.

It was true that for 54 years of that period—from 1663 to 1717—silver was the standard money, and gold was rated to it. But during the remaining 486 years of that long period both coins were equally legal tender and constituted a joint monetary standard. From 1797 to 1816 the position was the same, with this exception, that during the great wars cash payments were suspended, and we had a paper currency. But in 1816 the law in England was altered. We then adopted a gold standard, and the mints were closed to silver, which became token money, and was legal tender only up to forty shillings.

Now, Mr. TUCKERT had said in his Paper (page 107):—
“I do not think this ancient circumstance has now much
“bearing on the present state of affairs.”

Well, he differed from him there, because it was the first link in a chain of events which had led to the present situation.

We were often told of the enormity of doubting the wisdom of the great authorities on currency of former days, and that we ought to speak with bated breath of RICARDO, and of LOCKE, and others—and the great achievement of Lord LIVERPOOL in establishing a gold currency in 1816. And far be from him the presumption to question his authority. But it might be taken as certain that neither he nor anyone at that time foresaw the slightest probability of the remaining European mints being closed to silver, or the consequences which would follow if they were. If they had, nothing would make him believe that either Lord LIVERPOOL or any other statesman would have embarked upon a policy destined to create so vast and sudden a revolution in the relative value of the metals which for thousands of years had formed the joint money of the world.

It was true that England did not suffer from the change at that time, and, indeed, no one felt it up till 1873, and for this reason:—France in 1803 (13 years before the change was made in England) had opened her mints to the free coinage of gold and silver at a fixed ratio between the two. The ratio, or, in other words, the relative value of silver to gold, under that arrangement was in the proportion of $15\frac{1}{2}$ to 1. That was to say, that $15\frac{1}{2}$ pieces of silver of a certain weight were held to be equal to one bit of gold of the same weight, and *vice versa*. All the silver, thus converted into coin, became legal tender for the discharge of debts equally with gold, at the ratio which was thus established. In 1865 she was joined in this arrangement by a conjunction of States—Italy, Belgium, Switzerland, and Greece, known as the Latin Union; and that was the system known as Bimetallism. It had existed in France for nearly the whole of the present century, beginning in 1803, and it continued to prevail both in France and the other countries he had named up till 1873.

Now, the effects of that arrangement were as follows:—

In the first place, it gave to silver a position and a value as legal tender money equally with gold at the ratio he had named. Secondly, the relative value of the metals never varied, but remained practically steady for all those years, from the beginning of the century up till 1873, although during that time there were enormous variations in their annual production—ininitely greater than any that have occurred since then. And for this reason, which would be easily understood, that nobody possessing silver, and knowing he could take it to any of these mints, and get in return for it coin, which was available as legal tender money, at a fixed ratio with gold, would ever part with it for less than he could get at any moment from any of the mints that he had named.

And, thirdly, although the system itself was limited to the five countries he had named, the effects of that system were equally felt, and were universal in all the countries of the world.

Indeed, it was certain, as a witness stated before the Gold and Silver Commission, that we lived for all those years prior to 1873 under bimetallism, and felt the full effects of it in England although we might not know it, just as surely as our forefathers lived under the laws of gravitation before the days of Newton, although they did not know it either.

Now, he hoped he had done something to make good his proposition, viz.:—That bimetallism was nothing new, and that all the business of this and other countries was conducted under its full effects up till 1873.

He now came to the second proposition, viz.:—That the consequences of the new experiment have been injurious to productive industry, and are largely accountable for the general depression. What have been these consequences? Mainly two, in his opinion. They led to a serious appreciation of gold on the one hand, and to a wide divergence in the relative value of the two metals on the other. Mr. TUCKETT attributed this divergence to what he called the far more obvious fall in the value of silver. But that statement was not borne out by any of the facts before them as to silver prices, that was to say, the prices of commodities measured in silver.

All the available evidence went to show that in silver-using countries the prices of commodities had remained practically unchanged. It was more reasonable then to suppose, silver and commodities having been constant, that the divergence for the most part was rather due to a rise in the value of gold. But Mr. TUCKETT, as he understood him, went a good deal further, and denied altogether that there had been appreciation.

"All the evidence" (he says) "points to gold in every respect as the best and most stable standard of value, and there has been no considerable permanent alteration in its purchasing power within a reasonably long period of time."

It was too late, he feared, for Mr. TUCKETT to argue this to-day. He must refer him to the most eminent of his brother monometallists who asserted the fact themselves, and prominent among them Dr. GIFFEN. He might also mention a host of different authorities. Lord BEACONSFIELD, Mr. GOSCHEN, Lord IDDESLEIGH and his colleagues in the Commission on the depression of trade, as well as the members of the Gold and Silver Commission, in their report, all of them, in a greater or a less degree, acknowledge the fact of the appreciation of gold. And until Mr. TUCKETT had been able to refute the arguments of all these various authorities, which he must forgive him for saying he had certainly not done at present, he (Mr. CHAPLIN) must be permitted to argue his case upon the assumption that there had been appreciation of gold as a fact which could neither be disputed or denied. Indeed he did not see how it could be otherwise unless gold differs altogether from any other commodity in the world, for if the demand upon any given commodity was doubled without increasing in proportion the supply, it must become relatively dearer than it was before.

Now, why had gold appreciated ?

Gold had appreciated for the simple reason that since 1873 it has been called upon to do more of the work, as far as the metals are concerned, which formerly was done partly by gold and partly by silver. Consequently, in proportion to the work it had had to do, gold had become relatively scarcer, and therefore more valuable than it was before. This, of course, is a gain and an advantage to those who are fortunate enough to be the owners of the gold: that was

to say, to men who derive their fortunes from the possession of gold, or from fixed incomes, or from the funds, or from investments, the interest upon which was payable in gold. But it was a corresponding loss to the owners of every other kind of property and commodity in the world.

The answer to this argument of course was this:—

That may be quite true, but the appreciation of gold cuts both ways. If a man gets less for what he has to sell; so also he gives less for everything he wants to buy, and it comes to the same thing in the end.

That, again, would be true, and the argument would be unanswerable if there were no such thing as fixed charges and obligations to pay in gold, already in existence, and if the prices of all commodities had fallen in the same proportion. But then they knew that this was not the case, and what they had to recollect was this, that however much gold might continue to appreciate, however much more valuable it might become than it was before, those fixed charges and obligations must still be met in full, whatever it might cost the debtor to obtain the amount of the appreciated gold which was necessary to meet them.

But just consider what a frightful burden this imposed upon the labour and the industries of the kingdom, upon the workers and producers, and everyone whose capital was invested in industrial enterprise of any kind, when it was considered that the fixed charges already in existence in this country, of one kind or another, were estimated by competent judges at the enormous sum of £4,000,000,000 (four thousand millions) sterling.

To prevent exaggeration suppose they put it at half that sum, what did it all mean? It meant that when gold became appreciated and precisely in the same proportion in which it did appreciate, so much more of the produce and the labour of the country must be given in exchange for

the gold which was required to meet these obligations. The only way in which the gold could be obtained was by exchanging for it something that there was to sell, and excepting land which was unreclaimed and in a natural state, and therefore practically worthless, he knew of nothing that there was to sell which was not the product of the labour of the country. Those who gained by the present state of things were the great gold capitalists of the country, whose capital was invested, not in industrial undertakings, which provide employment for great numbers of people, but in fixed investments, and also the limited class in the enjoyment of fixed incomes or pensions payable in gold.

Those who suffered, on the other hand, were the workers and the producers of the country. The former class could be counted by thousands, and they were a mere fraction of the community as a whole; the latter class, upon the other hand, represented the masses and the millions of the people. That was why in a condition of society like our own the appreciation of the standard of value caused and must always cause grave and serious and important evils to the workers and producers in particular, who were the great majority of the community.

He now came to the second consequence, viz., the wide divergence in the relative value of the metals. It had taken the form of a heavy fall in the gold price of silver. Silver was valued in proportion to gold in 1873, in the proportion of $15\frac{1}{2}$ of silver to 1 of gold. Now it had fallen to between 24 and 25 to 1. Silver, which was worth, in 1873, 60*d.* an ounce, had now fallen to 38*d.* The rupee, which was formerly worth 2*s.*, according to a late quotation was worth only 1*s.* 2*¾d.*

He could not deal—he would not have the time—with all the various effects of the fall in silver upon India, for

instance, though that was a matter of the very first importance, and upon our trade with silver-using countries, and in other directions. He wished to confine himself, as far as possible, that evening to home interests, and as far as they were concerned, the effect of the fall in silver was to operate in the East as a bounty upon Eastern exports, and as a hostile duty against English imports.

Wheat and cotton were the two great home industries usually taken to illustrate the truth of this assertion, and it had already been done so often, that he was afraid he would simply weary the meeting by referring to them. But no one whose opinion was of any weight, any longer, he believed, disputed the truth and the justice of this statement. If that was so, he had said enough, he thought, to support his second proposition; and he proceeded to the third, viz., that it was desirable to revert to the former state of things.

That must not, however, be taken to mean that the former ratio of $15\frac{1}{2}$ to 1 was the *sine qua non* with him, with which Mr. TUCKER credited him; for almost any ratio, in his opinion, would be better than none. That, however, was a matter which it was not necessary to argue now, and with regard to which he had never been able to appreciate the difficulties which apparently alarmed so many people. For his part, he would be quite content, if bimetallism was agreed to, to take whatever was the market ratio on the day when the measures necessary to give effect to it would become law, and he thought he knew what it would be.

But the moment we proposed to retrace our steps by opening the Mints and by making silver legal tender, as well as gold, this double outcry arose:—firstly, it was said to be impossible; that with the greatly increased production of silver, no ratio could ever be maintained; and,

secondly, that, if it could be, we should be inflicting the greatest possible injustice on the creditor portion of the country.

Now, as to its being possible. What bimetallists said was this:—first, that the metals differed from other commodities in this respect, that they did not perish, and were not consumed. The mass of the existing gold and silver was the accumulation of centuries, and any increase in the annual output of either of them amounted to a mere fractional addition to the existing mass. Secondly, that what determined relative values was not cost of production, but demand and supply, and that if the Mints were opened, and a ratio of exchange fixed between gold and silver coins, an automatic system would be created, by which the demand for each of them would be such as to maintain that ratio at the point at which it was fixed; and, thirdly, that all the experience of the past showed that as long as the bimetallic system lasted, the stability of the ratio was effectively maintained, in spite of variations in the production of the metals, infinitely greater than any which had occurred since 1873. It was wholly incorrect to say, as Mr. TUCKETT said, that the moment bimetallism was tested by any serious divergence in the metals, it broke down altogether. The divergence occurred only after free coinage had been stopped and bimetallism had ceased to exist, and not before. Bimetallists contended that it rested with their opponents to show what were the circumstances at present, which were not also in operation then, and which render it impossible to do to-day what was done with perfect and complete success prior to 1873. No one has ever done this yet. He did not think they ever would, and until they did, bimetallists stood, in his opinion, in an impregnable position.

As to Mr. TUCKETT's other point, that it was unfair to

the creditors; that we must think of the classes who would suffer; and that there will be a general panic and all debts called in (the last was Mr. GIFFEN's argument, and it was nothing but the veriest mare's nest), he had two things to say. In the first place, he appeared to him to be singularly inconsistent. Gold, he said, had not appreciated in consequence of these monetary changes, and the abandonment of bimetallism. Well, if that was so, neither would there be depreciation by reverting to the system.

But, supposing he was right in his solicitude for the creditor, what about the debtor, who had all these years been suffering most grievously from causes which, as he contended, were due to mistaken legislation. Was he entitled to no consideration?

He did not say that these were the proper grounds at all on which this question ought to be decided, but, if they were, he would have thought that those who had been so unjustly suffering for all these years would be the first to be entitled to consideration.

The contention, however, of the bimetallists was of a different character, and, in a word, what they said was this:—Our standard of value has appreciated in the last 20 years to the extent of some 30 per cent. already, and no one can assign a limit to its further appreciation: which meant, of course, that prices had fallen heavily in the past, and must be expected to continue to fall heavily in future.

What they sought was to put a stop to this appreciation; to arrest this constant fall in prices, which had led to so much suffering in the past, and which must be fatal to enterprise and to every industrial undertaking, if it should continue, in the future. And this, he believed, could be largely accomplished by reverting to the system under which we reached the great prosperity of former years.

Now, there was every reason to believe that, when the

monetary changes were made in '73 and '74, they were made without the least idea of the evil consequences they would cause. But there was one man at all events who foresaw them, and his prediction was so remarkable that he would quote it. It was made by Mr. ERNEST SEYD, in 1871, so that he was not one of those who are wise only after the event, for he expressed this opinion before the contemplated legislation was carried. What he said was this:—"It is a great mistake to suppose that the adoption of the gold valuation by other states besides England will be beneficial. It will only lead to the destruction of the monetary equilibrium hitherto existing, and *cause a fall in the value of silver*, from which England's trade and the Indian silver valuation will suffer more than all other interests, grievous as the general decline of prosperity all over the world will be.

"The strong doctrinism existing in England as regards the gold valuation is so blind that, when the time of depression sets in, there will be this special feature. The economical authorities of the country will refuse to listen to the cause here foreshadowed; every possible attempt will be made to prove that the decline of commerce is due to all sorts of causes and irreconcilable matters. The workman and his strikes will be the first convenient target; then speculation and over-trading will have their turn. Later on, when foreign nations, unable to pay in silver, have recourse to protection, when a number of other secondary causes develop themselves, then many would-be wise men will have the opportunity of pointing to specific reasons which in their eyes account for the falling off in every branch of trade. Many other allegations will be made totally irrelevant to the real issue, but satisfactory to the moralising tendency of financial writers. The great danger of the time will then be that, among all

“ this confusion and strife, England’s supremacy in commerce and manufactures may go backwards to an extent which cannot be redressed, when the real cause becomes recognised, and the natural remedy is applied.”

In fact, what had been going on for all these years was a complete revolution in the monetary system of the world—a revolution of which 99 people out of every 100 have been in total ignorance, and the full effects and consequences of which he doubted if any of them realised at present. He regarded it, then, as a most auspicious circumstance that this interesting question should come under the review of an important body of men of business like the Surveyors of England; and it was quite possible that it would mark a new era in the history of this question, for bimetallists were satisfied that discussion and knowledge of the subject was all that was required to procure the acceptance of their views. They believed that their doctrines were scientifically true, and whatever was scientifically true in the long run was certain to prevail. But he must confess that there had never been a question the progress of which it had probably been more difficult to promote. Powerful influences had been against them from the first, and notably that of the City and the Press, and without the assistance of the Press and the means of making known their views, it was well-nigh impossible to educate the public on the question. But the movement, notwithstanding, was steadily making way. It was not so very long ago that anyone who advocated bimetallism was assailed as a lunatic and reviled for talking nonsense; but that phase of the controversy had passed away. The foolish and irrational abuse which a section of the community and the Press thought it fitting to indulge in was now, happily, suppressed. Indeed, it was somewhat difficult to continue it, when it became

necessary to include in the list of fools such men as the late Sir LOUIS MALLET, Sir W. HOULDSWORTH, Professors FOXWELL, NICHOLSON, and many others, not to speak of the late leader of the House of Commons, Mr. ARTHUR BALFOUR.

He repeated then that he hailed with unmixed satisfaction the fact that this discussion had been initiated by The Surveyors' Institution. He was delighted with the Paper read by Mr. GODDARD, and he thought it quite likely that the discussion might have more important consequences than at present they could foresee; for the judgment of that Institution upon any question which affected their interests could not fail to greatly influence the mind of the agricultural community.

The mind of Lancashire and her artizans had been long ago made up about it, and he believed that the ultimate decision of the question would very largely rest with the agricultural party in this country. In their hands he must leave it, and he could only conclude by expressing his gratitude for the attention with which the meeting had heard him and the pleasure it had given him to be present upon that occasion and to take part in those proceedings.

Sir GUILFORD MOLESWORTH (Visitor) said he felt much diffidence in rising to discuss the question after so exhaustive and eloquent a speech as that of Mr. CHAPLIN. It left him—he could scarcely say, with little scope, for the subject was one of enormous width—but it left him in the position of being able to allude simply to the few discrepancies which he noticed in Mr. TUCKETT's Paper.

Two things struck him as strange, in a Paper on this subject prepared by a surveyor, namely, first, that he appeared to attach insufficient importance to money as a measure of value, and secondly, that he seemed to fail to

realise that an accurate measure could be made by the combination of two metals.

Now, when an extremely accurate mathematical measure was required it was customary to employ what was termed compensation, and the most usual mode of compensation was the combination of two metals so arranged that the expansion or contraction of the one would neutralise the expansion or contraction of the other. Bimetallism might be termed the compensation of the standard of value. If he were to explain how this compensation acted, he might, perhaps, meet the difficulty which often seemed so insuperable to the beginner in the study of bimetallism, namely, the objection that, as gold and silver were two separate commodities, it was utterly impossible that legislative action should fix their relative price. He quite agreed with this—that it was utterly impossible for legislative action to fix the relative price of the two metals. All that legislative action could do was to fix the ratio at which there was a legal tender; but when that ratio had once been fixed, its stability was automatically maintained by the laws of supply and demand. This was very simple to explain in a few words. The very essence of bimetallism was that the debtor, as he was called—the person or the nation, whichever it might be, who had to make the payment—might select the metal in which he paid, and he would not be foolish enough to select the dearer metal or that which cost him most. In other words, the demander, or the person who made the demand for metal, naturally demanded the cheaper metal, and the demand for that metal caused its price, naturally, to rise. At the same time he drew off the demand on the dearer metal, which gave it a tendency to fall. The result must be an automatic compensating action. As soon as one metal began to rise at all appreciably above the ratio, the demand

for it fell off, and a demand for the other set in. This action was extremely sensitive, being watched by bullion brokers all over the world, and there was thus a constant automatic movement which maintained the equilibrium as surely as water found its own level.

Another thing in Mr. TUCKERT's Paper which struck him was the idea of political economy on which he based his argument. He had taken it as a great natural law that the value of the precious metals depended upon the cost of production, slightly and only temporarily mitigated by demand. This was a half-truth in political economy misapplied. Mr. MILL distinguished between market value and natural value; natural value being the cost of production. Mr. McCULLOCH also drew a distinction between the real value, or cost, and exchangeable value. Mr. SINGWICK said it was only under circumstances which seldom or never occurred, that the exchangeable value, even in a freely produced commodity, corresponded with its real value. Mr. MILL said there was a small class of things which, being limited to a definite quantity, had their value naturally determined by demand and supply, save that their cost of production, if they had any, constituted a minimum below which they could not permanently fall. The two precious metals were essentially things the value of which was not determined by the cost of production. That had been very well shown by Mr. DEL MAR, late Director of the Bureau of Statistics of the United States of America, in his "Money and Civilisation" and he (the speaker) had just noted down an extract from that work in which he related the difficulty which he experienced in endeavouring to reconcile Political Economy with facts. He said:—"From the eminent dialectical abilities of those who have "treated the subject—ADAM SMITH, RICARDO, BASTIAT, "McCULLOCH, MILL, &c.—it was evidently not reasoning,

“ but fact that was wanted to throw light on the subject—
 “ some hidden truth of nature, or some forgotten law of
 “ man, the disclosure of which was necessary to explain and
 “ harmonise divergent opinions. . . . Baffled at all points
 “ he (Mr. DEL MAR) suddenly abandoned his long and fruit-
 “ less labours, locked up his notes on the relation of money to
 “ civilisation, and went back to the profession for which he
 “ had been originally educated, viz., that of a mining
 “ engineer. It was while practising this profession that he
 “ made a discovery which induced him to resume the
 “ problem. He discovered that, even in California, the richest
 “ of all gold countries, gold was produced, on the average, at
 “ a loss; and that, in Nevada, the richest of silver countries,
 “ silver was produced, on the average, at a loss. As these
 “ conclusions are opposed to the fundamental principles of
 “ political economy, he took elaborate pains to verify
 “ them.”—(*Money and Civilisation.—Preface.*)

Following this lead, a commission appointed by the United States Government established the fact that for £12,000,000 value of gold produced in California wages alone cost £40,000,000. JEVONS found that in Australia the cost of producing eight millions of silver was at least twenty-one millions a year. The fact of the matter was that it was not an economic result, but a gambling fever, which led men to go in for gold and silver mining.

“ On page 106,” Mr. TUCKERT said, “ our bimetallist
 “ friends, whilst alleging a supposed increase in the value
 “ of gold, sometimes ignore a far more obvious fall in the
 “ value of silver.” But silver had not fallen in value. A
 diagram,* based on Mr. SOËTBEER’S index, shewing a
 number of commodities, demonstrated that while silver had
 scarcely fluctuated in value gold had appreciated in a
 very violent fashion.

* This diagram will be found before page 189.

Again, he thought that Mr. TUCKETT spoke of the depreciation of gold as if it were gold prices alone that had altered, and forgot that (so long as there was a link between them) silver and gold prices remained steadily together during the whole of the century until 1873, when the mintage of silver was restricted, and then they immediately diverged.

On page 113 Mr. TUCKETT had apparently adopted Dr. GIFFEN's error in denying that the ratio was kept in France; but he (the speaker) would point to the diagram* which showed the London prices of gold measured by silver during the century, and it would be seen that during this century the London prices of silver kept to the ratio with but slight fluctuations (par being $15\frac{1}{2}$ to 1). In 1873 silver was demonetised, and the price of gold in London, measured by silver, rose at once in a manner unprecedented in history.

But Dr. GIFFEN made the extraordinary mistake of assuming that the London prices, which showed a wonderful approximation to the line of par, were the ratio. They were nothing of the sort. They were simply the prices of silver in a monometallic country, which he had assumed to be the measure of ratio in a bimetallic country. These were two quite distinct things.

Dr. GIFFEN had also altogether neglected the item of exchange, which was a very important factor in the London price of silver, and appeared to have hopelessly confused market price, ratio, and premium. He had simply misunderstood altogether the character of what was termed the *agio* and altogether ignored the fact that at the time in which he stated there was an *agio*, or, as he termed it, a "premium on gold," there was also an *agio* on silver.

The *agio* was the price paid for the privilege of choosing

* This diagram will be found before page 189.

the metal. It was, in fact, the penalty paid by the monometallist country for the folly of adopting a system in which only one metal could be used in satisfaction of its obligations. It was a bullion broker's question entirely. There might be an *agio* on both metals, or a "premium," so-called, on both metals, at the same time; and at one time of that period in which when Dr. GIFFEN said there was a premium on gold in France, the *agio* of silver was even higher than the *agio* of gold. Moreover, the *agio* on silver in the years 1871 and 1872, when France was supposed to be swamped with silver, was higher than the *agio* on gold. In fact, Dr. GIFFEN had hopelessly confused the question of the bullion brokers with the monetary question.

Mr. MORETON FREWEN (Visitor), speaking as a bimetallist, said that he considered both sides were greatly indebted to Mr. TUCKETT for his Paper. Mr. GOSCHEN declared recently to a deputation that the point had now been reached when monometallists must give some account of the faith that was in them, and the difficulty which alone intervened between the reform movement and a rapid awakening of public opinion was in this, that the defence of the present "system" was almost entirely undertaken by anonymous writers. In 1873, this monetary revolution had taken place. For the first time in history the western mints were all closed to the free coinage of silver. Nowhere in the world was there to-day a national moneychanger receiving silver and giving gold. He considered, therefore, that, as an attempt to defend the present position, Mr. TUCKETT's Paper was invaluable; while, following to some degree Dr. GIFFEN's fallacies, Mr. TUCKETT's defence seemed to him more intelligent and intelligible.

To survey the Silver Question at all adequately it was necessary to go back to the discovery of the American

Continent by the Spaniards. A very few years later, about 1550, the great "Silver Mountain" of Potosi, in Bolivia, was found, and was worked by slave labour. The result of this discovery was the flow of a vast mass of silver into Europe, where all the mints were open to its free coinage. Here was the first great illustration of MILL's "quantity theory" of money. Money became "cheap," so cheap that all prices rose in forty years some four hundred per cent. Land, for example, advanced in price from £5 per acre to £25 in forty years, and no economist has ever questioned that this advance was the result of the cheapness, through abundance, of the new money. Now suppose that the European Governments had said in 1580, "We decide to close our mints to silver, and to melt up and sell our silver money," evidently the rise in prices which had been caused by the flow of silver from Potosi would have been cancelled; the value of an acre of land would have gone back from £25 to £5. What would have been the position of the mortgagor who had previously bought his property at £25, leaving £15 per acre on mortgage? And we have had exactly this condition of confiscation because of the anti-silver crusade which commenced in 1873. Silver has been melted up and excluded, and there has been in consequence a scarcity of money brought about by legislation, and a violent depression of the plane of all prices.

If they would further observe the effect on prices of abundant money, look at what followed after the great gold discoveries in California and Australia, in the middle of this century. All prices rose by leaps and bounds. We had free trade, we had a brisk era of railway development, and the construction of the Suez Canal; all things which on the face of it should have depressed prices, and yet prices until 1873 were all over the world constantly advancing. Then, with prices still in full advance, we were confronted with this

anti-silver crusade, and since then we have had a fall of prices on a scale without precedent.

Now, what does Dr. GIFFEN say? Dr. GIFFEN writes to the "Nineteenth Century Review" that the "quantity theory" is not merely untrue, but it is "the reverse of truth;" that it is the rise of prices that necessitates an increase in the volume of money, not the increased volume of money that raises prices. In other words, that it was the great rise of prices between 1855 and 1873 which necessitated the discovery of the Californian gold mines in 1849. It is true that the vehement outcry of the professors of political economy at a statement so obviously ridiculous has led Dr. GIFFEN since to withdraw this assertion, in some book which he has recently published; but this form of retractation was useless: everyone reads the "Nineteenth Century"; no one reads Dr. GIFFEN's books.

He was glad to hear Professor FOXWELL, two nights since, when addressing a working man's audience on this subject, declare on behalf of his brother professors that every professor of political economy in England was either a pronounced bimetallist or a reformer on more advanced lines still.

Dr. GIFFEN was quoted by Mr. TUCKETT as declaring that "the second reading of a Bimetallic Bill would be the "signal for the calling-in of all debts, which would produce "an immediate financial panic, and render the passing of "such a measure impossible." The total debts of this country amounted to at least three thousand millions sterling, the legal tender money to about a hundred millions. Was there ever a more absurd statement than this of Dr. GIFFEN's? Creditors were also debtors, and this calling-in of debts at a moment's notice would ruin every rich man whose retail debts even were a few hundred pounds. When a proper measure of currency reform to redress admitted evils is accom-

panied by threats of this form of class tyranny, Parliament, representing the constituencies, will know how to deal with the obstructives.

Mr. TUCKETT quoted Mr. LEECH as declaring that silver is produced at two shillings an ounce. Now, no one has done more than Mr. LEECH to explode the absurdity of the "silver inflation" argument. So far from Mr. LEECH believing in an over-abundance of the two metals, Mr. LEECH had repeatedly declared that, even given the free mintage of the two metals, still the tendency of prices would be downwards. Mr. KIMBAL, Mr. LEECH's predecessor, in his report four years ago, as director of the United States mint, said:—"Estimated as in the case of any other staple, *"the cost of silver is believed, by most men acquainted with our mineral industries, to be some multiple of its value.*" While a few ventures yield a rich profit, a majority of "gold and silver ventures fail to pay any interest on outlay, though in the aggregate contributing the larger part of the silver produced in the world. This is a curious fact, and due entirely to the fascination which the search for the precious metals has for a large class."

The yield of gold in California in 1854 was twelve millions sterling, and the United States Monetary Commission proved, by Mr. DEL MAR's researches on the spot, that during that year fifty-four millions sterling was paid away in wages to gold miners. The Australian Commission on mines, in the same year, showed that the monthly average production of gold per miner was £5 12s., and JEVONS, who visited Victoria for the purpose of investigating the cost of production, declared that miners were at that time receiving £13 2s. per month!

The very men who talked about an inflation of prices following from the masses of silver which would be produced if silver were remonetised, declared in the same breath that

the silver miners would make exceptional profits were bimetallism re-established. Clearly, if the price of silver rose thirty per cent., and miners' wages rose also thirty per cent., together with the price of machinery and of all supplies required at the mines, the owner of the mine would get little, if any, of the profit of the rise in silver.

He should like, in conclusion, to say with what interest he had read Mr. GODDARD's admirable Paper. Ten years ago, or even five, there were not half-a-dozen men in the country who could have prepared such a Paper, and the fact that young and rising men were turning their attention to the currency question was most encouraging. It promised a speedy settlement of that old "two standard" heresy, monometallism.

Mr. GEORGE BEKEN (Fellow) said Mr. GODDARD had been so much praised for his Paper, that a little adverse criticism would surely come as an agreeable change. The Paper was very ably written, but even in the opening sentences there was a ring of exaggeration and unreality which re-echoed throughout. Almost every paragraph contained a fallacy, expressed or implied. This, however, was not the fault of the writer, as the advocate could not be held responsible for the weakness of his case. He hoped Mr. GODDARD would pardon his likening him in this case to a barrister holding a brief in favour of a universal system by which all debts should be discharged by an ever-diminishing composition. This should not be the aim of currency legislation, but rather to introduce some means of preventing or compensating fluctuations, so that our standard, be it the pound sterling or anything else, might represent the same amount of labour on the one hand and the same purchasing power, subject to variations in the facility of production, on the other hand, at one time as at another.

In saying, at page 127, that "each year, as it passes, "seems to vie with the last in its gloomy retrospect and "still more gloomy outlook, and an exceeding bitter cry "arises from the entire working population that their "burdens are greater than they can bear," Mr. GODDARD might, unfortunately, be near the truth from an agricultural point of view, but the description was not generally applicable. This was shown by the enormous increase in the yield of the income tax. Not so many years ago each penny in the £ gave little more than £1,000,000 sterling of revenue, but now each penny gives over £2,300,000. Again, the profits from trade had grown from £490,000,000 in 1876 to £587,000,000 in 1890, or nearly £100,000,000. These facts did not bear out the gloomy tone of Mr. GODDARD's Paper, and the same inference might be drawn from the rates of wages now payable which, except in agriculture, were generally higher, and in some trades much higher than had ever been known, whilst the prices of the necessaries of life had decreased.

As regards history, he (Mr. BEKEN) could not go with Mr. GODDARD in ascribing all the ills recorded in the past to contractions of currency, and especially should the opinion ascribed to Sir ARCHIBALD ALLISON be rejected, that the fall of the Roman Empire was brought about by the decline of the mines of Greece and Spain. At any rate this would be only the secondary cause, the primary cause being that the riches "poured into Rome" had enervated her citizens, and made them incapable. Mr. GODDARD himself said that they, to a great extent, lost the art of extracting the precious metals.

Then, as to the troubles of the Dark Ages, which were attributed by Mr. GODDARD to the same cause. These were mainly due to invasions and devastating wars, mostly partaking of the nature of civil wars. That the precious metals should get scarce in such times was no matter for

surprise. They would be often hidden and lost, and mining would to a great extent cease. The diminution in the precious metals was rather the consequence than the cause of the troubles in the Dark Ages.

Much the same might be said of the years of distress following 1815. The country had to recover from the exhaustion of a long war, and to learn to exist without the squandering of public loans, whilst an enormous debt had to be borne, and steps taken to resume specie payments. The great drop of 50 or 60 per cent. in land, labour, and commodities between 1809 and 1849, referred to at page 135, was from a period when prices were inflated by paper currency, war rates of freight and protection, to a period of depression resulting from over-speculation and, as regards agriculture especially, from the repeal of the Corn Laws.

The question of ratios was a very important one, and Mr. TUCKER in his admirable Paper had referred to it in an admirable way. Was the ratio to be fixed at $15\frac{1}{2}$ or 16, as desired by France and America, when 20 or 25 ounces of silver could be produced as easily as one of gold? This would give an impetus to silver production, debts would be paid in silver; and gold, as money, would disappear, as it would become more valuable for the arts than as currency, and would command a high premium. Even if it were a fact, as had been stated that evening, that the total cost of working exceeded the total value of the precious metals produced, the inference sought to be established, that the cost had nothing to do with the production, was altogether wrong. The principal fixed ratios during the last 2,000 years had ranged in Europe from 1 to 10 to 1 to 16. It had been successively 1 to 10, 11, and 12 under the Romans. In 1546 Spain, having control of the market, fixed the ratio at 1 to $13\frac{1}{3}$. Afterwards Portugal gained control and altered it to 1 to 16. In 1775 Spain regained

control, and, as her colonial produce was chiefly silver, she raised its value to 1 to $15\frac{1}{2}$, which in 1785 was followed by France, whose previous ratio had been $14\frac{1}{2}$. It was thus seen that the comparative value of silver had, in the main, been diminishing during the last 2,000 years. With temporary exceptions, every new ratio had been successively broken through by the market becoming overweighted with silver, as at present.

According to the "Encyclopedia Britannica," from which the foregoing figures were taken, it was not, as Mr. GODDARD said, in order to lower prices artificially, but to check the abuses arising from these arbitrary changes in the ratio, that England, in 1816, definitely adopted one metal in place of two for full legal tender coins. That the depression of the next 30 years was not due to this measure was clearly shown by Mr. GODDARD at page 134, because silver could be and was sold in France at the ratio of $15\frac{1}{2}$ to 1. The rebound from 1850 led to the crash of 1866, arising again from over-speculation. There had been minor fluctuations since in the commercial world, and these no system of currency could prevent.

On the whole, the adoption of a single standard by England seemed to have been a measure of great foresight in view of the enormous output of silver in recent years, in spite of its diminished market value. If a single metal standard were wrong it was strange that it should have been adopted by the Germans (who are generally considered a long-headed people), and quite recently by Austria.

It was very noticeable that all the comparisons of prices given during the evening had taken 1873 as a starting-point. This was unfair, as at that date prices generally were acknowledged to have attained a maximum. Mr. FREWEN, in referring to the fact that prices had risen fourfold within 40 years after the discovery of Potosi, sympathised with

those who had invested in land and borrowed money at the top of the market. He, Mr. BEKEN, sympathised with them too, but he also sympathised with lenders when they were repaid in actual value at the rate of only one-fourth of what they had lent. It would, in his opinion, be well for each country to use one metal, be it gold, or be it silver, as a standard for full legal tender. For example, America, India, China, perhaps France, and some other countries might use a silver standard, whilst England, Australia, and other countries might retain their gold standard. He believed that this system, combined with free coinage, would give greater stability to ratios than any legislation could ensure. Cash and short-date transactions in each country would adjust themselves. The rupee, for instance, would have less purchasing power for labour and commodities if silver continued to flow into India at a greater proportionate rate than its demand increased from the extension of trade. To dispute this, as he understood Mr. GODDARD to do, was to disregard all the effects which those gentlemen who had spoken during the evening had ascribed to an increase of currency in the past, and which they expected in this country from an increase in the future. As an instance in point, he would like to read an extract from a letter he had that afternoon received from a gentleman connected with extensive operations in the interior of Brazil. He should explain that when the revolution in Brazil took place the exchange value of the milreis exceeded 2s. sterling, but it had now dropped to 1s. 1d. His friend wrote as follows:—"We certainly have found that, although we get more milreis for £1, they do not go so far as when the exchange was high. The price of mostly everything, including labour, has gone up as the exchange has gone down." To the question of remote payments in each country he would refer further on.

Foreign trade could adapt itself to any steady varia-

tions in the exchange between one country and another, and exchanges would be steadier if left to natural causes, unaffected by spasmodic legislation or such uncertainties, for example, as whether the Democrats in America or the Republicans should win at the poll.

Upon the Anglo-Indian official engaged under a permanent scale of salary, receivable in the silver currency of the country, whilst many of his payments might be made in gold at home, it was undoubtedly hard when that currency materially depreciated. He ought, in fairness, to receive more rupees, and, without increasing her burden, India could afford to pay more, as she would also receive more rupees as taxes.

From Mr. GODDARD's Paper it might be argued that the prosperity of India appeared so rampant under a single metal currency that it would be madness to tamper with it either by suspending the coinage of silver, as some advocated, or by introducing a gold standard.

As regards European salaries, he thought that possibly a fair compromise might be arrived at by paying a part, one half for instance, in gold and one half in silver.

As regards English agriculture, the cheapness of produce was not due to contraction of currency, but to the enormous increase in supplies from districts abroad newly brought into easy touch with our markets. This was at once apparent from the effect on the price from any prospective diminution in those supplies. In this competition the dearness of labour with us was a disadvantage compared with the cheap labour in India, where a man, it is said, will live on a little rice. At any rate, he costs little to feed, less to clothe, and nothing to school.

Little was said in Mr. GODDARD's Paper as to the currency affecting the relations of landlord and tenant, but rent was an important and, comparatively-speaking, fixed

outgoing for most tenants. It ought, however, to vary with the times, not merely reflecting fluctuations of price, but also, if possible, fluctuations of season. This could only be done effectively by a sliding scale for rents, to be modifiable to meet the cases of different districts. Time did not permit his going into this, but he thought it a pity our great agricultural authorities did not turn their attention to the subject. To take a farm on lease at a fixed rent was, as Mr. GODDARD said, often a gamble. In good times the rents should rise automatically, and in bad times the tenant should have to pay less, not as a matter of favour, but as a matter of right. Something of this kind had become the more necessary now that, under the recent Tithe Act, the tenant ceases to be affected by the variation in the amount of tithe. The adoption of a sliding scale should be a matter of free contract, not of Government meddling and dictation.

Monometallism had its risks, but contracts for long periods must carry risk in any currency. Mr. GODDARD evidently wished for a currency that should be constantly depreciating in value, but under such conditions it was certain that the lenders would obtain a higher rate of interest. He would like those present to consider some of the effects of such a currency. Take for instance the case of a young man insuring for £1,000 at the age of 20, and the policy maturing at the age of 70. Would it not be hard upon his relations that the amount they received should, for example, only represent one half the value of what the insured had calculated upon?

Perhaps, in the future, some scheme might be evolved for varying the amounts of remote payments with some regard to the value of commodities and labour at the time, but for current and short-dated transactions nothing of the kind was needed.

Mr. GODDARD had assumed that the production of gold was

diminishing, but this was not the case at the moment. What the future production of either metal might be was mainly a speculative question. The time must come when we could not expect to make grand new discoveries; but improved machinery, especially for drainage, and, with the advance of chemistry, improved methods of extraction, might do much to promote production, whilst the extending use of cheques, postal notes, and the like would greatly reduce the waste of metal.

It mattered little, he thought, what the quantity of the circulating medium might be, provided its value remained stable at one time as compared with another. On the ground that gold fluctuates less than silver, he would prefer gold as a standard of value, and on the ground of the impossibility, as shewn by the experience of centuries, of two different metals circulating side by side without arbitrary alterations in the ratio from time to time, he objected to bimetallism.

MR. H. L. FEUERHEERD (Visitor) thought that perhaps the best answer he could give to the last speaker's arguments was to quote the words uttered by Lord BEACONSFIELD, then MR. DISRAELI, in November 1873, when he had said :—" But "it is the greatest delusion in the world to attribute the "commercial preponderance and prosperity of England to "our having a gold standard. Our gold standard is not the "cause of our commercial prosperity, but the consequence of "our prosperity." He thought that was very tersely put, and it embodied exactly the feeling that he had in his own mind.

Two Papers were under discussion, one monometallistic and one bimetallistic. He must say he had a great admiration for both, more particularly for the first, for he, as a bimetalist, had never read a better argument on the monometallistic side because it told so immensely in favour of bimetallism. He referred more particularly to page 116 of

the Paper which was called in the heading "The effect of bimetallism if adopted by England." This paragraph shewed clearly, by inverting Mr. TUCKETT's argument and predictions, what has really taken place since silver was demonetised, namely, that everything had gone against the debtor class, causing ruin to our farmers and miners.

Another point he wished to refer to in Mr. TUCKETT's Paper was this. He said :—"The total gold production since the 15th century has been estimated at over £1,600,000,000," and "The total value of the silver produced since the 15th century has been estimated at £1,900,000,000." But at what price was the silver valued ? The fact that the two precious metals had gone hand in hand together for so long a time at the current valuation proved, he thought, that the rate of exchange between the two which had been adopted up to 1873 had been a just and proper one.

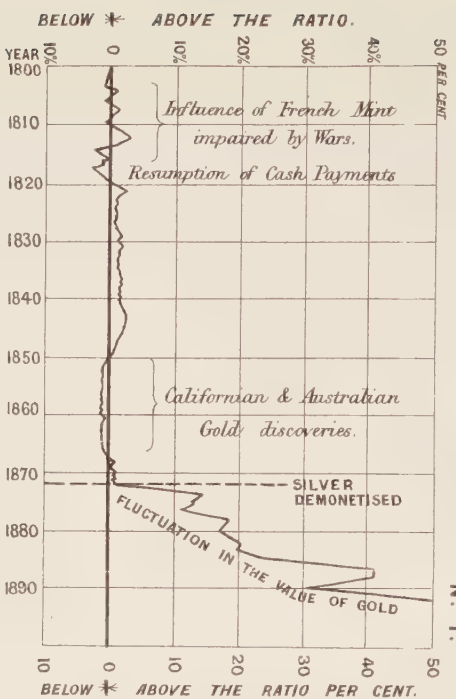
In Mr. GODDARD's Paper a reference was made to the experience of the Roman Empire, which he thought might now be taken as a guide. It was a most extraordinary thing that when the Roman Empire went to the dogs, to use a vulgar expression, wheat was at 15s. Of course the production of the land was thereby curtailed. The rich people could no longer pay the armies, and all trade declined. He wished to come to the real and practical issue. Let a definite proposal of some kind be brought forward. He noticed that the bimetallists had stood their ground, and that the monometallists were gradually coming towards them. That was significantly proved by Baron ALFRED DE ROTHSCHILD in Brussels, when he made a proposal to which the Americans could not agree, but a part of which he thought it would be very desirable to adopt in a modified form. Baron ALFRED DE ROTHSCHILD proposed that our coin payments in silver should be limited to one hundred shillings. He (Mr. FEUERHEERD) did not like that because then a £5 note could be paid by the Bank of England in

base token coin. He would limit it to eighty shillings, but he would remodel the silver coinage of this country, which was a token coinage, and which had not the value of the silver coinage of another part of the Empire, namely, India. His idea was that an agreement between the two contending parties was a proper thing to arrive at if possible. Let the gold people keep their gold standard, but let there be a bimetallistic ratio for the token coins of this country. He believed that would be satisfactory to both parties, and that if the token coinage were withdrawn and replaced by a silver coin on another basis, namely, the Indian standard, and the limit of legal tender raised to 80s., everybody would be satisfied. At any rate monometallists would be, because the gold standard would be maintained. The change, which, if effected at 40*d.*, he thought, would also satisfy the bimetallists, would only cost the country about £8,000,000, and would form an approach to the system which was generally called the decimal system, in a most remarkable manner. He would propose then to do away with the present token coinage altogether, which was, to his mind, valueless (2*s.* 6*d.* to-day being only intrinsically worth 1*s.* 6*d.*) He would call in those coins and adopt a standard silver coinage on the basis of 350·625 of pure silver per four shilling piece, or dollar. What would be the effect? The British dollar would become what the Americans like to call theirs, "the almighty dollar," for everybody would accept it. In Indian bazaars it would be taken as 34 annas, and in England five of them would represent a sovereign. The monometallist would thus keep his gold standard, and he believed bimetallists would be satisfied and pleased, as the British dollar would introduce the £ sterling in India, and a fixity of exchange would ultimately result.

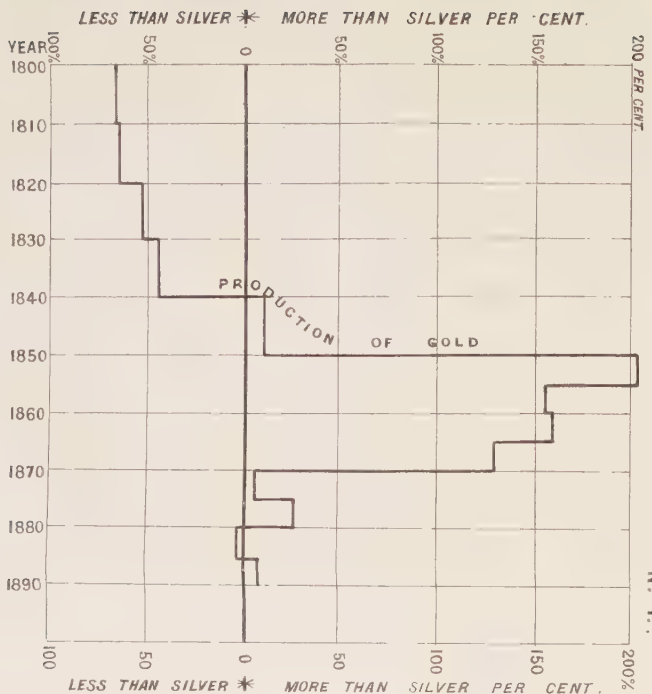
The discussion was then adjourned to the Meeting of Monday, February 6th.

To illustrate Sir Guilford Molesworth's remarks on Bi-Metallism, pages 173, 174, vol. 25.

ANNUAL AVERAGE FLUCTUATION OF THE VALUE OF GOLD
MEASURED BY THE LONDON PRICE OF SILVER ABOVE OR BELOW
THE RATIO OF 1 TO 15%.

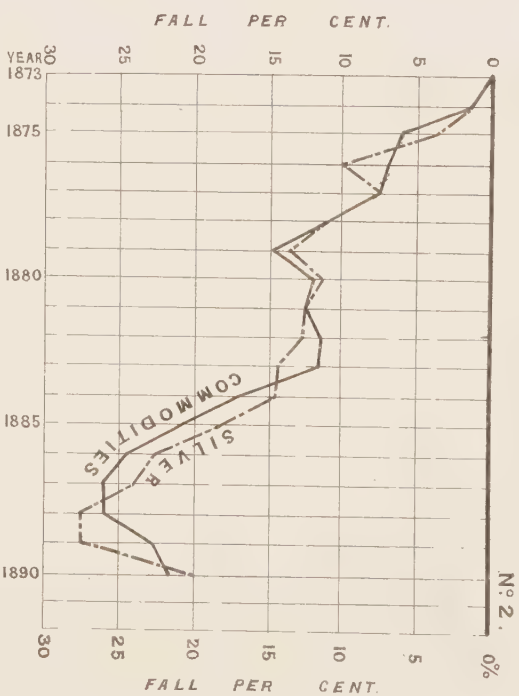


RELATIVE PRODUCTION OF GOLD MEASURED BY PRODUCTION OF
SILVER BY VALUE.



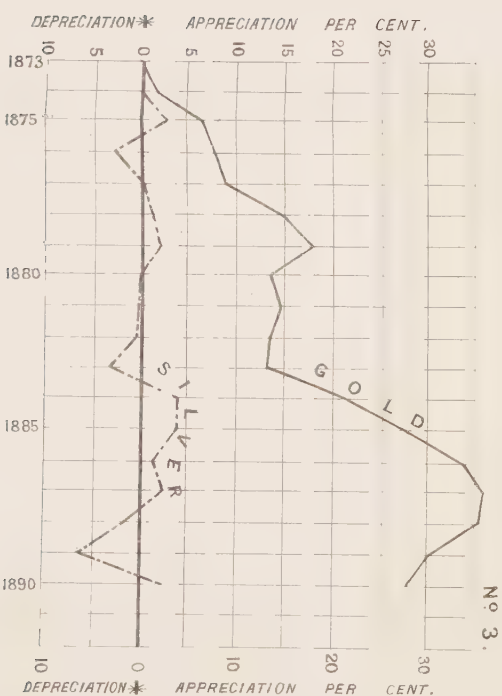
FLUCTUATION IN THE PRICES OF SILVER & COMMODITIES
MEASURED BY GOLD.

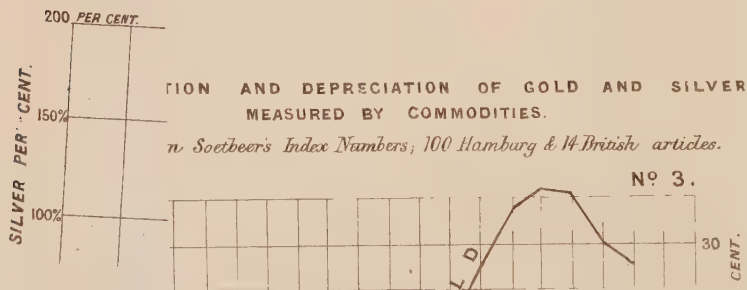
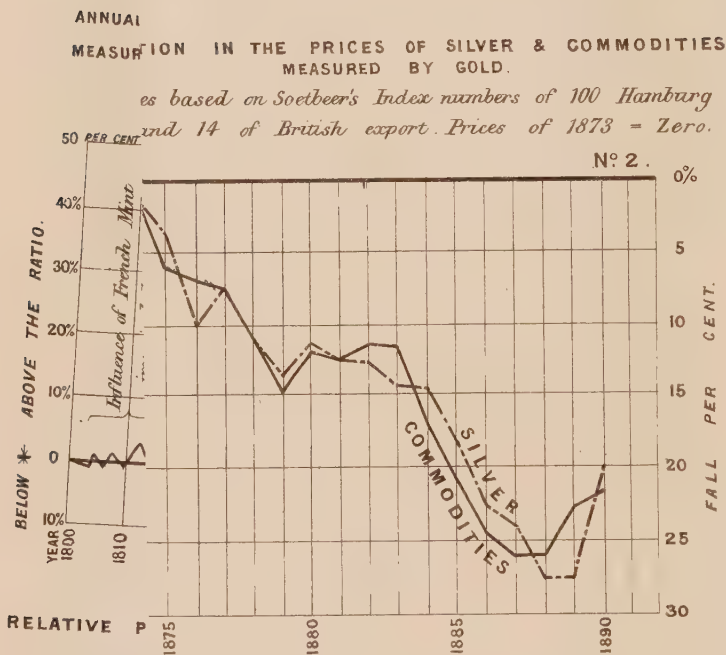
Commodities based on Soetbeer's Index numbers of 100 Hamburg articles and 14 of British export. Prices of 1873 = Zero.



APPRECIATION AND DEPRECIATION OF GOLD AND SILVER
MEASURED BY COMMODITIES.

Based on Soetbeer's Index Numbers, 100 Hamburg & 14 British articles.





NOTE ON SIR GUILFORD MOLESWORTH'S DIAGRAMS.

DIAGRAMS Nos. 1 and 1A have been drawn one above the other to shew how very little the enormous flood of gold from California and Australia affected the relative price of gold and silver in England. It will be seen that, although the value of gold produced at the beginning of the century was about 60 per cent. *less* than that of silver, the relative prices at that period differed very little from those of the period when the production of gold was 200 per cent. *more* than that of silver. There was no serious divergence from the rates of 1 to 15½ so long as the Bimetallic Law of France was in force; but immediately the mintage of silver was restricted in France, in 1873, a divergence resulted which was altogether unparalleled in the history of the world.

During the first 73 years of this century the conditions tending to disturb the ratio were enormous; yet France, almost single-handed (for the other members of the Latin Union did not join her until nearly the end of that period), not only maintained the ratio, but produced the wonderful effect (indicated by the diagram) of steadying the relative price of the two metals in monometallic countries. Many of these disturbing conditions could not recur under an extended international combination. At one period the ratio of the United States was 3½ per cent. higher than the French ratio; at another period 3½ lower. At one time gold was scarce; at another time silver was scarce. The rush of gold from the diggings was a tremendous strain. Portugal overvalued her silver at one period; the Netherlands overvalued their gold at another. Those monometallic countries, like England, Germany, and India, who could only satisfy their obligations in one metal, were frequently cornered, tending to produce an *agio*; yet, in spite of these and other disturbing tendencies, the ratio was preserved in France.

At the beginning of the century, notably from 1803 to 1865, the influence of the French mint on the London price was impaired, more or less, by wars which practically closed the French mint

to England; but even then the effect was nothing compared with that which has occurred since 1873.

DIAGRAM No. 2 shews the wonderful coincidence in the fall of gold prices of silver and commodities. The coincidence is too close to be accidental. In the years before 1873 silver and gold prices of commodities kept together, and there was a general tendency of these prices towards a rise.

DIAGRAM No. 3. Gold, measured by itself as a standard, can neither appreciate nor depreciate. In like manner silver, measured by itself, can neither appreciate nor depreciate. The only means of testing their fluctuation is by their power of purchasing commodities.

Tried by this test the diagram shews that whilst gold has appreciated enormously since 1873, silver has remained almost stable, fluctuating sometimes above, sometimes below, the level of commodities.

Gold is the standard of a portion of the world; silver is the standard of a still larger portion.

In 1873 silver, forming previously half the metallic currency of the world, was demonetised in Europe for International purposes, for which gold has now to perform the work done by it jointly with silver. Appreciation is the necessary and logical consequence, yet some persist in attributing the appreciation to other causes, such as over-production, under-consumption, &c., blind to the fact that it is absurd to suppose that the causes which affect one standard of value in so serious a manner should leave the other standard unaffected; blind also to the fact that these causes had been steadily at work during the greater part of the century, and that therefore the fall of prices, if due to such causes, should have been spread gradually over the period thus influenced; whereas, on the contrary, prices had *risen very largely* during the 15 years preceding 1873, and were then steadily rising. It was only after 1873 that prices *suddenly fell* to an extent that has been perfectly appalling.

AT
THE ORDINARY GENERAL MEETING
Held on Monday, February 6th, 1893.

CHARLES JOHN SHOPPEE (PRESIDENT) IN THE CHAIR.

The discussion on Mr. TUCKETT's and Mr. GODDARD's Papers was resumed by—

The Right Hon. Sir JOHN LUBBOCK, Bart., M.P., F.R.S. (Visitor), who said it was with great pleasure that he had accepted the invitation to be present that evening and to speak on this very important subject. He thought that, in spite of all differences of opinion, everyone would agree that the question of the currency was one of the most important that could be brought forward, for, directly or indirectly, it affected every interest in the country, and even those who differed from Mr. TUCKETT would admit that he had dealt with the subject in a very able and instructive manner.

It was very generally agreed that no change should be made in the currency of the country except for the most cogent possible reasons. As he understood them, those who advocated bimetallism did so on grounds affecting (1) England, (2) India, and (3) the trade between the two countries. The interests of other nations were no doubt very important; but he did not think anyone would suggest that we should alter our fiscal arrangements merely in order to suit the convenience of the United States, or France, or any other foreign country.

As far as England was concerned, he believed the chief reason for suggesting a change in the standard of value was

the belief which seemed to exist that there had been, during the last 15 years, an appreciation of gold, and, consequently, of the pound sterling, of something like 30 per cent. For his own part he must say he believed that to be entirely a delusion—at any rate, it was a theory which ought to be accepted only on the strongest evidence. No doubt there had been a general fall in prices during that period, but it seemed to him that the reason of that fall was chiefly—he did not say entirely, but mainly—owing to improvements in production and a reduction in the cost of transport, and not to any alteration in the value of gold. To take, for instance, the case of wheat, which had been referred to. Mr. ATKINSON had shewn that in the last 15 years there had been a remarkable reduction in the cost of railway transit in Dakota and Minnesota. There had been a diminution in the cost of shipment of 11s. a quarter, and of freight of 5s. a quarter; the cost of cultivation had been diminished, owing to improvements in machinery, by 2s. a quarter; improvements in buildings, &c., had effected a saving of 3s. a quarter, and in the elevation and handling of the grain of 1s. a quarter, making a total saving of 22s. a quarter. The average price of wheat for the years 1870 to 1873 would be found to be between 54s. and 55s., and if from that the 22s. per quarter was deducted it would leave 32s. per quarter, and thus the present price of wheat was very nearly accounted for without any reference to any appreciation of gold. He believed that the price certified in the *Gazette* last year, for tithe purposes, was 30s. He thought he had completely accounted for 22s. out of the fall in price of 24s.; and, as he wished to be perfectly candid and not overstate his case, he would admit that there had been some slight appreciation of gold which would account for the difference.

No doubt there had also been a great fall in the value of land, but that was partly due, he thought, to some recent legislation. The security of land as an investment was one of its greatest attractions, but this had been to some degree impaired, and there were even some who feared that law and justice were about to be relegated, with political economy, to some distant regions of space.

He believed, if the case of any of the other great staple articles of commerce were taken, it would be found that there had been an economy in the cost of production and in transport somewhat corresponding to that affecting wheat, which he had taken as an illustration. It had always been accepted as an axiom that peace and plenty went together, and that one of the advantages of plenty was that it involved cheapness. Now, however, it was said that the cheapness was merely nominal, and that it was really the gold which was dear, but he thought there were several considerations which entirely negated the idea of any such extreme appreciation of gold as had been suggested.

To return to the question of land for a moment. It appeared from the Board of Trade Returns that there had been a fall in the rental of land of some 20 per cent. since 1874. But it followed mathematically that if there had been a fall in rental, measured in gold, of 20 per cent., and there had been a rise in gold itself of 30 per cent., then, so far from there being any agricultural depression such as had been described, there had been a real rise in rents. In that case the landed interest—he was speaking of it, of course, as a whole—had nothing to complain of, but, on the contrary, had received a substantial addition to income.

Even if the fall in rental had been more than 20 per cent., say 30 per cent., still, if gold had appreciated 30 per cent., the real fall was very small. His own belief was that there had been a real and heavy fall in rental, but, if so,

there could have been no such great appreciation of gold as had been represented.

He would like to refer to a statement made by Mr. BARR ROBERTSON, which appeared in the last number of the *Journal of the Society of Arts*. Mr. BARR ROBERTSON said that he (Sir JOHN LUBBOCK) had written a letter to the *Times* in order to shew that gold had appreciated 5 per cent., and he proceeded as follows:—"How did he make it out? "Some gentleman, whose name he forgot, had laid it down "that all rents in England had fallen 20 per cent.; and as "gold had risen 30 per cent. there had been no fall in gold "prices, indeed, there was 10 per cent. to the good. But it "was a strange mistake for Sir JOHN LUBBOCK to make to "quote the rise in the purchasing power of gold, as if it was "a rise in gold prices, when it was just the reverse." There were several misapprehensions in that sentence. In the first place, he had not written to the *Times* to say that gold had appreciated 5 per cent. The object of the letter was to shew that that there had not been an appreciation of gold to the extent of 30 per cent., but he had admitted that there might be some appreciation, probably amounting to 5 per cent. Then Mr. BARR ROBERTSON said, "Some gentleman, "whose name he forgot, had laid it down as a fact that all "rents in England had fallen 20 per cent." The words were those of Sir RICHARD PAGET, whose name was well known and respected among the agriculturists of the country. But the statement did not rest alone, even on the high authority of Sir RICHARD PAGET, but appeared in the Board of Trade Returns. Then Mr. ROBERTSON went on to say: "Sir JOHN LUBBOCK was going to set off an imaginary rise "of 30 per cent., which never existed, against a fall of "20 per cent., which he said did exist." But it was Mr. BARR ROBERTSON and Mr. CHAPLIN who maintained that there had been a rise of 30 per cent. in the value of gold.

He was not stating that there was any such rise; on the contrary, he was contesting it, and he was glad to find Mr. BARR ROBERTSON agreeing with him on that point.

He had not made the mistake of supposing that a rise in the purchasing power of gold was a rise in gold prices. The whole argument of his letter was exactly the reverse. He ventured to think then that the idea of there having been a rise of 30 per cent. in the value of gold was entirely a fallacy, and that, so far as England was concerned, the argument based on it fell to the ground.

With regard to India, the fall in the rupee was, no doubt, very inconvenient to the Indian Government, because, although they received the same number of rupees, they really received a much smaller amount of revenue than before; but, so far as that country was concerned, it was obvious that the taxpayers gained, for, if the Government received less, the taxpayers paid less. He did not wish to under-estimate the inconvenience of the change, but it was no reason why this country should alter her system. The natural thing to do would be to raise revenue in some other way. He quite admitted that, in the case of India, there were difficulties in the way of altering taxation, which would not occur in a country like our own, but he had thrown out a suggestion, which he would not then go into farther, as to the way in which he thought these difficulties might be met.

With regard to the Indian debt, it was said to be very unjust that India, having borrowed a certain amount of gold, should now be called upon to repay it when gold was worth so much more, but if that applied to India how much more did it apply to the case of England, where the whole debt was in gold? To interfere with the existing arrangements in the way that some persons had suggested would shake the whole basis of commercial confidence, and if

India gained anything by such a proceeding she would lose much more by the injury she would inflict upon her credit.

Then, coming to the question of the trade between England and India, he did not wish to deny that the fluctuations in exchange were extremely inconvenient. If it were possible to obtain a standard of value which was absolutely unalterable, it would be a very great advantage and convenience, and, where that was impracticable, of course an effort must be made to obtain the nearest possible approach to it.

But, when it was said that the fall in the rupee acted as a bounty to the Indian producers of wheat, he thought the argument was overstrained. If the case of the Indian producer of wheat were compared with that of the English producer of wheat, the Indian wheat grower got, roughly, the same number of rupees that he used to get, and the English farmer might get a considerably less number of sovereigns, but those sovereigns would buy just as much—perhaps even more—than they did before; while the rupees which the Indian farmer received were worth 25 per cent. less. It could not, therefore, be maintained that the fall in the value of a rupee acted in any way as a bounty.

The Indian trade, considered as a whole, could not be said to have suffered. Of course it was impossible to say what it might have been under other circumstances, but certainly the trade of India had enormously increased of late years. In 1871 the trade of India with this country was under £60,000,000 sterling. Last year it was £100,000,000 sterling. If the depreciation of prices were taken into account, it would then follow that the trade of India had more than doubled in 20 years, and therefore there was not much to complain of in that respect. Supposing the currency were altered in order to assimilate it to the

Indian currency, Australia and South Africa, which were great gold producers, would not be very likely to take a course which would have the effect of depreciating the value of a great product like gold, in order to raise the price of silver, which they did not produce to anything like the same extent as gold. He did not think his bimetallic friends could induce them easily to enter into such an arrangement. If the fluctuations of exchange with India were done away with, and fresh fluctuations with other colonies resulted, he did not think that they would be any great gainers. Nor would India gain by it, for a great deal of the trade of India was carried on with silver-using countries, such as the Straits Settlements, China, and Japan. Something might be done with regard to the Straits Settlements, but nobody ever supposed that China was likely to adopt bimetallism, and, if she did not, then any attempt to diminish the fluctuations in exchange between India and the United Kingdom by the introduction of a gold standard, would introduce fluctuations of exchange between India and China, which would not be to the advantage of India.

Having given his reasons for thinking that the change would not be in the interests either of England or of India, or of trade between England and India, he would now, for a few minutes, consider the change itself. He must say that he could not believe it possible to maintain a fixed ratio between any two great staple articles. It seemed to him, just as impossible to maintain a fixed ratio between gold and silver as it would be to maintain one between wool and cotton, or between wheat and barley. It was stated that a fixed ratio between the metals had been maintained amongst ancient nations, the Babylonians and the Egyptians; and also in France and other countries. As far as Babylonia and Egypt were concerned, it was rather a long while ago, and he was not quite sure much reliance could be placed on the

details of the statistical information with regard to those countries. He did not know even that they had arrived at any exact idea as to what a legal tender was in those days.

A letter by Professor MAX MÜLLER in the *Times* had been referred to Mr. CHAPLIN. He (Sir JOHN LUBBOCK) always listened to what Professor MAX MÜLLER said with the greatest possible respect, but, as quoted by Mr. CHAPLIN, he did not appear to go so far as had been supposed. The words were these:—"It has been shown that the ratio " between silver and gold in the Egyptian coins was always " maintained at 1 to $12\frac{1}{2}$, while in Babylonia and all the " countries which adopted the Babylonian standard, it was " 1 to $13\frac{1}{3}$, where, with slight fluctuations, it was maintained " for a great length of time." There was no doubt that it was possible to maintain the ratio between gold and silver " in their coins," but it was a very different thing to have to maintain a ratio of *value* in those coins. It was easy to have a given number of grains of gold in the sovereign and a given number of grains of silver in the shilling; but the difficulty in the case of a free and open mint would be to maintain the ratio between the sovereign and the shilling.

Then, with regard to France, it was a point very much insisted on that in that country, up to 1874, the ratio was maintained between gold and silver coins. He was sorry to say that he was old enough to have travelled in France when he had been obliged to pay an *agio* on the French gold. If a man was travelling in France he had either to pay a premium to get gold, or to carry a cartload of silver. If a man had gone to his banker's, and said, "I want 500 louis d'or in gold," he would have had to pay a premium for them.

It had been pointed out by Dr. GIFFEN that France had not succeeded in keeping the ratio steady, and Sir GUILFORD

MOLESWORTH, at the last Meeting, attacked him somewhat severely for that statement. Dr. GIFFEN was perfectly well able to take care of himself, and it would be a work of supererogation on his (Sir JOHN LUBBOCK's) part to defend him, at whose feet he had sat for many years, and in the accuracy of whose statements he had the most perfect confidence. Dr. GIFFEN was certainly not alone in making the statement referred to, for the Gold and Silver Commissioners came to the same conclusion.

In Lord HERSCHELL's Report it was pointed out that the result of the attempt to maintain the ratio led to an *agio* on gold coin, and the same statement was also made by the Director of the United States Mint, who pointed out that on an average it amounted to as much as five per cent., the extremes being, of course, greater. The attempt to maintain a ratio in France had inflicted very great inconvenience. The coinage of gold in France fell so that from 1841 to 1845 it only amounted to £800,000. After the great gold discoveries in 1856 to 1860 the French coined in gold the enormous sum of £108,000,000, while the silver coinage fell in 1861 to 1865 to £800,000. These tremendous fluctuations were of course most expensive and inconvenient. At one time gold was driven out and was replaced by silver, so that there was an *agio* on the gold coin. Then on the great gold discoveries, silver was driven out and there was an enormous coinage of gold. The Latin Union found themselves practically compelled to close their Mints. They did so with very great reluctance. France, Belgium, Switzerland, and Italy would have been very glad indeed to have kept them open, but they found it impossible to maintain the ratio if they did so. It was not the closing of the Mints which caused the divergence of value, although no doubt that divergence became greater afterwards when the Mints were closed. If silver could be

produced at 2*s.* an ounce it was not very likely that it could be kept up to a price of 5*s.* an ounce.

England was asked to join the Latin Union and the United States in the attempt to maintain a ratio between gold and silver. There was already the open Indian Mint, the great Latin Union consisting of many of the principal European nations, and on the other hand an immense coinage of silver in the United States, and if these could not maintain the price of silver at the present time, how was it likely that the mere fact of England joining them would enable them to do so? Our commercial transactions were no doubt enormous. England and her colonies had one-third of the whole commerce of the world. When it was remembered what a mere handful of people we were, and that we were carrying on one-third of the whole international commerce of the world, it was a fact to be proud of, but one reason for that fact was the economy of our banking system, and the confidence felt in our standard of value. Some persons thought that our store of gold was too small, but what would be the effect of joining the Latin Union and the United States? How could it affect the relative value? It would be very inconvenient if our gold was driven out and replaced by silver. The amount of silver in circulation now in this country was regulated by the convenience of the people. Everyone had as much silver as he wished, and he thought no one had more gold than he wanted. It would be very inconvenient if a large proportion of the gold were to be driven out of circulation and to be replaced by silver.

There was another consideration which must, he thought, weigh with every man of business. The possibility of maintaining a given ratio between two articles must surely depend on the production of the articles. The total annual production of gold had fallen, while that of silver had risen

from £8,000,000 to £28,000,000; or, if estimated at the old prices, to over £38,000,000. With such fluctuations it seemed to be impossible to maintain a fixed ratio. It must also be remembered that a large proportion of the gold and silver annually produced was used in the arts.

It had been said over and over again, that, except Mr. BIRCH and himself, the Gold and Silver Commissioners were unanimous in their opinion that a ratio could be maintained. That, however, was quite a mistake. Lord HERSCHELL'S Report distinctly stated that:—"It seems probable that the "most extended international agreement would lead from "time to time to the existence of a premium on either the "gold or silver coins." The Commissioners did not say that the ratio *would* be maintained, but that it *might* be maintained. If the production of gold and silver were to continue in the same proportion it was quite possible a ratio might be maintained, but before we committed ourselves to such an arrangement we ought to be sure that it *would* be maintained, which was a very different matter.

The advocates of bimetallism passed very lightly over the question of the ratio to be adopted. But that was a matter of great importance. It was understood that the Latin Union would agree to no ratio higher than $15\frac{1}{2}$ to 1; but if such a ratio were fixed it would practically result in our buying a considerable amount of the American and French silver at a price greatly above its market value. If silver were to be bought, let it be bought in the cheapest market, and where the price would be a great deal lower than that proposed.

He often wondered why the bimetallists did not suggest that the ultimate standard of value should be half one metal and half the other. If they were to say that, legally, the pound sterling should be half gold and half silver, it would be fair all round. That would be real bimetallism; but

what bimetallists proposed was, that one party to a contract should have the option of paying either in gold or in silver. That surely was not fair. If they would refuse, and rightly refuse, to give the creditor any such unfair advantage, then how could it be reasonably claimed for the debtor?

Everyone remembered Sir ROBERT PEEL's question, "What is a pound?" We in England all knew what a pound was, and foreign countries knew it also, and it was to the fact that they knew what a pound sterling was that a great deal of our business in the City of London was owing. No one knew what an American dollar might be, but all were sure what a pound sterling was. His own impression was that, if bimetallism were adopted, everybody who was engaged in any large or important business would certainly contract himself out of the arrangement. Take, for instance, foreign loans. In any foreign loan it would certainly be made a condition in the contract that it should be payable in gold, and, if the foreign country were to insist on having the option of paying either in gold or in silver, he felt sure they would have to pay a higher price for it. Our foreign investments were enormous, and were growing larger and larger every day. At present we were receiving something like £100,000,000 every year from our investments abroad, and when one looked forward to the future, and considered the gradual diminution of our resources in coal and iron, it must be felt that, if our population were to be maintained in happiness and comfort, it must be by saving during comparatively good times, and investing still further in foreign countries, so that our revenue might continue to increase. Would it not be most unwise to say to foreign countries—"You owe us £100,000,000 a year; you shall pay us in gold or in silver, whichever you like. If gold goes down by the discovery of fresh gold-fields, then you may pay us in gold. If, on the other hand, there are great dis-

“coveries of silver, you may pay us in silver, whichever is “most convenient.” Surely it would be foolish to give such an option, and he could not believe that such a course would ever be likely to be adopted.

There was only one other point he wished to refer to, and that was with regard to the interests of the working classes. It was a very important branch of the subject, and one well worth considering. What were the real interests of the working classes? While other things might have been going down of late years, wages had, on the whole, been going up. The British working man of the present day was, on the whole, receiving higher wages, and the chief articles of consumption were 20, 25, and 30 per cent. cheaper than they were. It was said by some that not only were the working classes getting 25 per cent. more wages, but that the wages they got were worth 30 per cent. more than they were before. He did not use that as an argument, because he did not accept that view, but he did say that the working classes were receiving higher wages, and that the staple articles of consumption were cheaper than ever before. Was it not wasting time to consider this proposal unless it was likely to have the support of the working classes, and could it be supposed that they would be willing to make a change in order to lower their wages and to raise the prices of the commodities they consumed? They certainly would not do it.

At the last Meeting, Mr. SQUAREY, speaking on this subject, drew a most glowing picture of what bimetallism would accomplish. He said that, under its magic influence, “the English farmer, careless of competition with the fertile “plains of the Punjaub or the black soil of Russia, would “return to the cultivation of cereals on now disused land “when their market price bore some more reasonable relation “to the cost of production.” Bimetallism might be a won-

derful panacea, but he should not have thought that it would affect the fertility of our English fields so as to enable them to compete with the "fertile plains of the Punjaub or the black soil of Russia." But in any case, if the price of wheat were to be raised, it followed that the price of the loaf must go up, and he did not think that was a proposal which was likely to commend itself to intelligent working men.

He had given his reasons then for thinking, first, that there had been no such appreciation of gold as had been supposed ; secondly, that we could not rely on maintaining any given relation between gold and silver ; thirdly, that bimetallism would introduce great uncertainty in the value of our standard ; and, fourthly, that the present depression of trade was not due to the fall in silver.

He maintained that there was no sufficient reason why we should change our system of coinage, which was well adapted to the wants of the country, or endanger, if not destroy, the stability of our standard, which was one of the most important elements in our commercial prosperity.

Professor H. S. FOXWELL (Visitor) said that what had struck him in that discussion was that they did not appear to be quite clear as to the facts. He should like to call the attention of the Meeting, in the first place, to the fact that there had been an actual fall in prices following the demonetisation of silver in 1873. In fact, there had been such a considerable fall in the prices of wholesale commodities from 1873 to 1892, that the general level was now lower than in 1848-50, about the time of the Californian gold discoveries. This was what was meant by the appreciation of gold.

In his opinion, silver had a slightly greater purchasing power now than it had in 1873 ; in other words, wholesale

prices measured in silver were not quite so high. It had been constantly said that the value of silver had fallen, but he maintained, as a matter of statistical fact, that silver would buy rather more commodities at the present time than it would in 1873. He had taken the prices of commodities measured in gold, he had taken the amount of commodities that gold would purchase, and then considered how much gold silver would purchase in London, and had thus arrived at the conclusion he had stated. He thought he had clearly established the fact that gold had considerably increased its purchasing power, to the extent of 40 or 50 per cent., and that silver had maintained it. Next, as to the ratio, he wished to point out that up to 1873 there was no very considerable change in the ratio between the value of gold and silver. There were slight variations which did not amount to more than 1 or 2 per cent. But after 1873, there was an extraordinary variation; the ratio varying from $15\frac{1}{2}$ to 1, to 24 to 1.

Those were the facts, and the question now was as to the interpretation of those facts. It would be admitted that the fluctuation in the ratio between gold and silver was extremely inconvenient in its bearing on our trade with silver-using countries. It had also very seriously affected our investment business. Sir JOHN LUBBOCK had said that the investment business was a most important element. On the Stock Exchange it was commonly said that that branch of business in England was almost at a standstill at the present time; because the English investor did not care to lend his money to foreign countries on the condition of receiving interest which was to be paid in silver; and, on the other hand, the silver-using countries refused to borrow money at interest which was to be paid in gold. The consequence was that railways were not built, municipal undertakings were not

carried out, silver-using countries were not developed, and English trade was stagnant.

Whereas before the Australian gold discoveries something like three times as much silver as gold was produced, after those discoveries the production of gold was three times as much as that of silver. That change was brought about in the space of five or six years; and yet the ratio was not sensibly disturbed. On the other hand, there was no considerable alteration in the supply of silver in 1873, and nothing took place in the mining of the metals to bring about a change which was without parallel in history; yet in a very short period the ratio was changed from $15\frac{1}{2}$ to 1 to 24 to 1. There must have been some unique cause for so great a change, and he thought it was to be found in this—that, whereas up to 1873 there were always some countries in which gold and silver were connected by a fixed ratio and equally current as money, after 1873 that gradually ceased to be the fact in one country after another. The free mintage of both gold and silver at a fixed ratio was abandoned for the first time in that year.

In his remarks with regard to cheapness and the advance and fall of prices, Sir JOHN LUBBOCK dealt with a delicate question, but he (Professor FOXWELL) should like to make clear his own views on the point. It was natural to believe that cheapness was a good thing. Economy in production was a good thing, as was anything that increased man's power over nature. But it was, on the whole, convenient, having regard to the nature of our commercial transactions, which extended over long periods, that the value of money in terms of commodities should be stable. It was convenient that the supply of money should keep pace with the supply of commodities.

Cheapness did not necessarily mean lower nominal or money values. Essentially it meant greater purchasing

power, greater control over the necessities, comforts, and luxuries of life. This was undoubtedly a result to be desired; it was in fact one way of expressing progress in material civilisation. But such greater purchasing power might be arrived at in two ways; either prices might remain steady and incomes might rise, or incomes might range about the same and prices might fall. Dr. GIFFEN had, many years ago, foretold a continuous fall of prices, and said that working men must expect to find their wages reduced in proportion to the fall; but that was a doctrine the working classes were not likely to appreciate. It was, moreover, extremely important, from the point of view of production, to consider in what way the employer was affected by the change. With the fall in prices he had great difficulty in meeting the many fixed payments he had to make, and, if his profits melted away, he would naturally decline to carry on the work of production. It was not open to the working men to say that trade should be carried on; that was decided by the comparatively small class of men who were responsible for the carrying on of business, the great employers, engineers, and so on. Whether trade was extended or not depended upon whether it would suit the pockets of this class. Anything which destroyed profits would, in the long run, discourage enterprise and reduce wages.

It was suggested by Sir JOHN LUBBOCK that there would be some difficulty in convincing working men on this subject, but he had not himself met with any. In fact, he sometimes felt that, in this direction, the bimetallists had succeeded almost too easily. In every case in which the working men had been approached they had met with success. The Parliamentary Committee of the Trades Union Congress, which was the most important body concerned with the interests of the working classes, had, after a debate

lasting from 2 o'clock in the afternoon until 10 o'clock at night one Saturday, adopted a resolution in which they impressed this point on the Government, because they were persuaded that the present movement of prices was injurious to the interests of production, and therefore injurious to themselves. A working man stated in his presence at Manchester the other day, "We are satisfied, and have been for a long time, that our interests and those of the employers are the same." There was therefore very little difficulty in the case of the working men. He wished he could think his views would be quite as successful in the City.

It had been stated that the importance of the question had been exaggerated, but he thought there were very few reforms that could be put on an equal footing with that question.

It was asked by Sir JOHN LUBBOCK what difference it would make if England were to join the Bimetallic Union. He thought it would put the future of silver beyond question. It was now too frequently the prey of speculation, and this was also the case with gold to a certain extent. The quantity of gold in Europe was so small that a syndicate could sometimes affect the markets very seriously. The question was, should the reserve be made up of one metal only, and that metal gold, or should gold and silver be equally available? The great advantage of having two sources of supply was that the common stock was less liable to variation if it could be fed from both sources. The joint supply of gold and silver since 1873 had been very much steadier than the supply of either gold or silver separately.

As far as the Bimetallic League was concerned, it would be very careful to avoid advocating a course which would bring about any sudden change. But he held that prices had been unduly forced down, and some regard must be paid to the interests which had suffered.

So far as he had gone in discussing the matter in England, he had only found one class of persons who, while thoroughly understanding the position of the bimetallists, refused assent to their policy, namely, the Socialists, particularly that class of Socialists who believed in the abolition of profits, and the nationalisation of land, and so on. They saw that there would inevitably be considerable disturbance and difficulty everywhere, and knew that those conditions were favourable to the spread of their socialistic views. Things were going steadily towards the depreciation of every kind of property, and such people saw that, if they were to nationalise property and had to pay for it, the more that depreciation went on the less they would have to pay, and so the monometallists were doing their work.

Mr. J. F. L. ROLLESTON (Fellow) said he should like to join most heartily in an expression of thanks to the authors of the very able Papers now under discussion. More especially was he grateful to the author of the first Paper, with whose views he was absolutely at variance, because, during many years of study of this question of money, he had always found that most of those who would excuse the policy of demonetisation were either ignorant of the subject or were backward in explaining their reason for the faith that was in them. He therefore most gratefully recognised that the author of the Paper advocating monetary contraction and falling prices was neither ignorant nor backward: but that, on the contrary, he had handled his subject with marked ability, and had struggled to maintain his somewhat insecure position with signal ingenuity and courage. It was both candid and courageous of him to state, at the outset of his remarks, that to confer internationally the legal function of money upon silver as well as gold would have the effect of raising prices to an extraordinary degree. In that con-

nection the only point of difference between Mr. TUCKETT and them on the other side was that they contended that bimetallism, under which the nations would give free coinage to silver as well as gold, and under which silver would be restored to its former position as legal tender money, would arrest, in the first instance, that disastrous fall of prices that was going on, and then, if the mines continued fertile, and if the precious metals were produced in moderate abundance, the volume of money would tend gently towards expansion, and there would set in consequently a gradual, a natural, and a healthy rise in prices, which, they believed, was earnestly desired by the great majority of the classes of this country. They were not so ambitious as Mr. TUCKETT in thinking that international bimetallism would force up prices to an extraordinary degree. He did not believe that, with the mints of India and Spanish America already open to the silver production of the world, any extraordinary surplus could be produced. They were content to accept as accurate the evidence of Mr. LEECH, of the United States' Mint, which was produced at the late conference at Brussels, that the mines of the United States and Mexico were believed to have reached their maximum production, and that a decrease of 11,000,000 oz. was expected during the present year. But, even if the close of this century should experience phenomenal abundance in the harvests of silver or of gold, there would, if both were permitted to be applied to their natural use, be indeed cause to rejoice that the lean years had at length passed away, and that they might look forward to passing some portion of their lives, at least, in a period of general prosperity and plenty.

Living men could remember the scanty supply of the precious metals in the forties; gold being only produced to the amount of about £6,000,000 annually. They could also remember the low prices and distress of that period.

Then came the abundant production of the fifties, running up to £36,000,000 annually; then again came the reduction to about £18,000,000 which, happening simultaneously with the proscription of silver in the seventies, had been followed by general complaints of bad times ever since. The instability of gold as a standard of value had been amply illustrated during this generation as compared with the stability of prices under the silver standard of India. It was true that the production of gold was now slightly increasing, but so great was the demand upon it that it was inadequate to supply the wants of the world—at least those portions of the world which had dispensed with the use of silver. Those who could remember those successive periods to which he had referred would say that the best time to live in was that of exuberant production. Remarkable at this time were the words of that great opponent of monetary expansion, the leading daily journal. In an article of January 18th last, referring to the report of Mr. HAMILTON SMITH on some large prospective discoveries of gold in the Witwatersrand district of South Africa, it said:—"The public has been forced of late to hear too much of the consequences of an excessive appreciation of gold not to comprehend the inconvenience of a decrease in the supply to which it has been accustomed. Necessarily with the expansion of human activity more of the medium for the exchange of an augmented quantity of commodities is wanted. An actual diminution would necessitate a very troublesome revaluation of goods, and be extremely oppressive to debtors." Therein was their whole contention—with the expansion of human activity more money was of course wanted. Was a period, in which the sphere of human activity was so rapidly expanding, the time to destroy a large portion of the money of the world? It was the diminution of the volume of money that was upon us which was complained of, and

which was necessitating a general revaluation and was extremely oppressive to debtors. He should like to hear how the monometallists regarded the prospect of this enormous production of gold; £215,000,000 in ten years, was, he believed, the estimate. Their arguments against the use of silver appeared to be that monetary contraction and low prices were blessings rather than otherwise; that instruments of credit had taken the place of money; that there was no use for hard money, and so on. They must then regard with alarm and even horror the prospect of an enormous discovery of gold, whereby the volume of money would become greatly expanded and prices (to use Mr. TUCKETT's words) "forced up to an extraordinary degree." All those evils (if they were evils), which Mr. TUCKETT prophesied would happen if the silver treasure of the earth were to be accepted by the mints, would happen, only in a much greater degree if there was any accuracy in the forecast of Mr. HAMILTON-SMITH. The first instalment of this huge yield they must suppose would be the signal for calling in all debts because they would be decreased in value and cause accordingly a financial panic. Those who had become accustomed to see the value of the debts due to them increased to thirty shillings in the sovereign, would naturally be alarmed at the prospect of their being reduced to a sovereign again.

It was almost time, therefore, for the monometallists to begin to agitate for stopping the free coinage of gold, which, it was interesting to remember, was even seriously discussed in the fifties. The point he wished to make was that silver and gold possessed properties in common; neither possessed any quality that was not possessed by the other, not even regularity of production. Silver was just as hard as gold, and was equally indestructible. Both were beautiful and rare. An American writer recently said that there appeared

to be in England, what there should not be, a *parvenu* sentiment that there was an air of "good society" about gold that was not possessed by silver. There could be no other reason for preference. It was because both these metals possess the properties he had mentioned in a greater degree than any other substances, that mankind had concluded to confer upon them the monetary function; and it was mainly that the function of money had been so conferred that imparted their value to the precious metals. To deprive one or the other of them of this function was to take away its chief value, and to force down its price artificially. This, Great Britain and some other countries had done to silver; its value had been forced down artificially by demonetisation, and the monopoly of the money function thus given to gold had forced its value up to an extraordinary degree, to the complete destruction of values. If anyone was disposed to admit, as the *Times* did, that a large discovery of gold, by causing expansion of the currency, would have a good effect upon trade and agriculture, then he must also admit that to open the mints to silver would have a similar effect: both would cause the volume of money to become expanded with the consequence of a rise in prices. The prospects of gold discoveries, however, were speculative and improbable. Estimates had too often deceived them in the past; we should rather prefer the remedy that was possible—that was to hand, that was even certain—the remonetisation of silver. It was as well, too, to be sure that those fables about enormous gold production were not designed to choke off the agitation for the rehabilitation of silver.

Admitting, as he did, the injury inflicted on debtors by the fall of prices, Mr. TUCKETT was good enough to condole with encumbered landowners, rather inferring that that class was the principal one that owed debts. Mr. CHAPLIN

said at the last Meeting that the indebtedness of this country—public, corporate, and private—was estimated at 4,000,000,000 sterling. Surely that colossal total was sufficient to constitute us, too, a nation of debtors! A rise in the value of gold increased the anxieties, the difficulties, and the burdens of that great class who were mainly the workers, the bees of our great industrial hive. It went to the hearthstone of every taxpayer and ratepayer, that great class who support the governments of the world. The increase in the weight of taxation was, he felt sure, a familiar cry to the Members of that Institution. The liabilities of municipalities and insurance corporations were enormous. The banks were said to owe, on current accounts and to depositors, £600,000,000, most of which was payable on demand in gold. To meet this huge debt there was only one considerable cash reserve, that at the Bank of England, which was about £15,000,000. The whole stock of gold in the United Kingdom, including that in the pockets of the people, was estimated at about £100,000,000. No wonder that the City was somewhat nervous to-day. The present condition of affairs caused anxiety to others than encumbered landowners. The shaky condition of only one firm recently caused a Governor of the Bank of England and a Chancellor of the Exchequer to lay their heads together, and sent the former borrowing a trifle to go on with from the Bank of France. Was that circumstance reckoned as one of the triumphs of gold-monometallism? Was that one of the historic feats of what Mr. TUCKER proudly described as the great financial centre of the world? Monetary panic was almost chronic in this country. The fluctuations of the bank rate were more violent and frequent in London than in any other European capital, and if, in addition to all that, we had a shrinking volume of trade, a ruined agriculture, and hungry people, it was indeed

difficult to discern the merits of this boasted gold standard. On the contrary, the prospect it held out was positively appalling, and filled the best intellects of Europe and America with dismay. Mr. TUCKETT admitted that the reduction of the value of the public debt by bimetallism would give relief to the public debtor, the taxpayer, but he said that this relief would not be of a creditable kind. Now, he was sure that Mr. TUCKETT knew enough of this subject to be well aware that this country owed £900,000,000 in 1816, all of which was borrowed on terms that both principal and interest should be repaid in gold or silver or both. It was the taxpayer, therefore, who wanted restitution. It was he who had a right to complain that the enactment of 1816, depriving him of that option after the money was borrowed, was legislation of a most discreditable kind. It was true that that option was not of much value until 1873; but it was very valuable to-day, and if, as was contended, that legislation was responsible—if it was in any degree responsible for the distress that existed to-day, for the enrichment of the bondholder and usurer at the expense of the debtor and the industries of the country, then it must be conceded that it constituted the greatest crime of class against class that had ever blotted the history of mankind.

He was aware that, with regard to banking, the monometallists relied on the power of the Government under the present law to permit the Bank of England to resort to the printing press, and to make some money of paper and ink, beyond the legal fiduciary issue, in times of panic; but should this be a resource of a country whose financial system was said to be solid and substantial? He should prefer a greater circulation of true money, of hard money, such as France possessed. Seventy years of bimetallism had given France a circulation of money (not token money as Mr.

TUCKETT wrongly said) more than double the amount *per capita* than we had, and that country was a marvellous instance of financial prosperity. France had an unrivalled banking system. The bank rate was absolutely steady; she had money to lend on occasion to a needy neighbour. Neither the occupation of her territory by foreign armies, nor the excesses of her commune, nor the payment of a huge war indemnity, nor the swabbing up of her savings by groups of swindlers, had paralysed her energy or checked her growth. In any test of comparative financial stability, the upper hand must always be with France. It would seem as though the bimetallic system had been proved to be the most satisfactory of all currency systems, and as though life were more worth living under it than any other. He could not but think that Mr. TUCKETT was laughing in his sleeve at the distress of the agriculturist, for, in alluding to the severity of the competition with India, he said that a moderate import duty was his cure for that. How magnanimous of Mr. TUCKETT, while denying the agriculturist more money and better prices to make him a present of a "moderate import duty"! Bimetallism had existed in this country for two centuries, and in the Latin Union for 70 years, with great advantage to the world. It was well known that the nations were willing to adopt it, and to agree again upon a ratio if Great Britain could join. The Government of Great Britain was responsible for the denial to their country and the world of the benefits which it was contended that bimetallism would confer. And why would not Great Britain join? Because the people most interested, the industrial classes, took no trouble about their affairs, but left them to be settled by financiers, between whose interests and their own there was absolute divergence. A dear sovereign and low prices were held in high favour in Lombard Street, but they were destructive to the industrial community. The appointments

made to attend the recent conference at Brussels constituted a grotesque representation of the interests of the industrial classes of Great Britain, and it was to be hoped that, before the conference reassembled in May next, such an advance in knowledge of that subject might be made as would lead to the appointment of a delegation more representative of the commercial, agricultural, and working classes of this country.

The Members of the Institution represented, he believed, four-fifths of the landed property of Great Britain, besides a vast amount of house property and of mining and manufacturing property. How important then must the question of legal tender laws be to them and to those vast numbers of people who were attached directly or indirectly to that property and those industries! How important to them must the question be, what shall be the measure of value of all this property, of all these productions, and of all this labour! He did not know any association in the country that was so much interested in this question as the Institution, and let him also say that he did not know any association that in point of numbers and of influence and of organisation was so capable of giving practical effect to any conclusion that might be arrived at. He was sure that no one could feel quite comfortable in reflecting that the bimetallists of 1816, as well as of this generation, had throughout predicted that England was raising up for herself monumental troubles in adopting auro-monometallism as her system of currency, and that they foretold, and accurately foretold, the depression of agriculture and trade which now seemed chronic amongst us; and with the credit that must attach itself to that prediction it was still more unpleasant to reflect that they confidently foretold that under that system the worst of those troubles had not yet been experienced.

If experience had forced upon them the unwelcome conviction that something was wrong with their great industrial

machine, then it was surely a duty to find out the defect, if there was one, rather than to lie back, as many did, trusting to things to right themselves, and calmly surveying the prospect with a sort of theoretical optimism. The reception that the subject had met with there was evidence that this was not the attitude of the Institution, and shewed that it was leaving the academy and the platform, and was coming, where it ought to come, home to men of business. He was sure that he might say, even in the presence of the eminent professor who preceded him, and who for many years past had laboured to explain to the busy portion of his countrymen that this question was pre-eminently their question, that the subject of what should be standards of value belonged rather to the offices of business and the marts of commerce than to the lecture rooms of schools. That subject was not of local but of world-wide importance. All the considerable nations of the world were now in conference upon it, and he ventured to express the humble opinion that amongst all the many remedies suggested for the relief of the present depression, Members of that Institution would, by a calm consideration of that question, best serve those great and important interests entrusted to their care.

Mr. TUCKETT (Fellow), in reply, said he thanked the Members of the Institution for their kind attention to his Paper. That it had been severely criticised by the leaders of the Bimetallic League was not to be wondered at nor complained of, and, on the contrary, he had to acknowledge some kindly praise from some of them, particularly from his friend Mr. SQUAREY and from Mr. MORETON FREWEN. He was glad to find that no speaker had pointed out any blunder in any of the figures or facts stated by him, much as some of them had contested the deductions to be drawn from them.

His task in replying was an ungrateful one, because both he and his audience were so deeply impressed with the present low state of agricultural affairs, that when the late President of the Board of Agriculture (deservedly popular for the good work he accomplished with reference to cattle disease) came there to tell them he had not only found out the cause of agricultural depression but its remedy, it was a thankless office to have to shew that those views were a fallacy. But he had too much faith in the sound common-sense of his profession, to doubt his audience wishing to hear the truth.

All the bimetallic arguments brought forward had been fully ventilated already in numerous review articles, newspaper letters, and speeches, and had all, as he thought, been refuted already; but they were repeated again, and would, doubtless, continue to be repeated, whatever had been or might be said that evening.

It was very kind of Sir JOHN LUBBOCK to come and give such valuable information, and he regretted the absence of other eminent orthodox monetary authorities; but it must be remembered that there is no organised body for opposing bimetallism, and he gathered, from some things he had heard, that some of those whom they would have particularly liked to see, were disposed to say that bimetallism had been already killed by the Brussels Conference, or that it was too illogical to argue about, or that it was useless to go on refuting the same arguments over and over again. But if this should ever become a matter of practical politics, he thought it would very soon appear how very far the Bimetallic League was from representing the views of those who understood the subject. Dr. ROBERT GIFFEN's name had been often quoted, and did not seem to please the bimetallicists. He had not the advantage of knowing that gentleman, except by his books, but most of his audience

were doubtless aware that he was at the head of the Commercial Department of the Board of Trade, and that his very eminent services in the investigation of questions of currency, prices, and other economical matters, were everywhere recognised, and had been so by the Royal Society, of which he is a Fellow, and by the University which conferred on him its Doctor's degree. He had quoted Dr. GIFFEN on a few points, because in reading his books he was greatly struck by the evidence they afford of careful scientific research and evident desire to arrive at the truth, but the main facts and figures in his Paper were taken from that part of the Report of the Gold and Silver Commission that was signed by all twelve Commissioners, including Mr. CHAPLIN, as representing the bimetallists. He should like to read one sentence from Dr. GIFFEN's last book, because it might help a little to explain the absence of some prominent authorities. He writes:—"In the country of LOCKE, of ADAM SMITH, of Lord LIVERPOOL, of the Bullion Committee, of RICARDO, of Sir ROBERT PEEL, it is surely a scandal of the first magnitude that men of light and leading in other respects should have talked seriously, even for a moment, of any such idea as the possibility of a fixed price between gold and silver."

He would first say a little about silver, and then reply on the two chief points on which Mr. CHAPLIN elected to join issue with him, viz., the bimetallism of the Latin Union, and the appreciation of gold.

Many members of the Institution would have noticed a parti-coloured pamphlet lately scattered about in their library for distribution. It was an address by Mr. ROLLESTON to a Farmers' Club. On reading Mr. GODDARD's Paper he found the material of the two very much the same, though the literary treatment was different. Neither seemed to him to shew much acquaintance with any recognised authority,

such as the Gold and Silver Report, whilst each contained certain American expressions, rather suggestive of their sources of information. But they were chiefly remarkable for what they omitted. From beginning to end he did not find any reference in either to what he conceived to be the greatest fact of all in connection with that subject; he meant the fact that, compared with thirty years ago, the production of silver had increased about five-fold, and compared with sixty years about nine-fold; and that its cost of production had been reduced by nearly two-thirds, or certainly more than one-half. During the first half of this century the annual production varied only from about 16,000,000 to 28,000,000 ounces, and now it was 145,000,000 ounces. Think what that meant. The world's yearly gold production used not to exceed three-quarters of one million ounces, and now it was between six and six and a half million ounces, whilst that of silver had reached 145,000,000 ounces. He noticed in a recent Australian Trade Report that the output of the little group of Broken Hill Mines for one week in December last, was 345,039 ounces, which was as much as a week's production of the whole world sixty years ago. The enormously increased output of silver was the foundation of the whole matter, and the cause of the agitation, and he could not understand persons professing to discuss the subject, without dealing in some way with that most important feature.

When he heard that the chief leaders of the Bimetallic League were coming in person, he thought this glaring omission would be rectified; but it had not been so. None of the bimetallic speeches had dealt with the increased production of silver; the part of his Paper which did so had been passed over. He gave Mr. CHAPLIN the fullest credit for having thoroughly persuaded himself of the justice of his cause, but for all that, the sagacity of the practised debater in knowing what to pass by as well as what to

say, distinguished him almost as much as his persuasive eloquence. He quite ignored that part of the Paper; and yet this flood of new silver was not a thing that could be overlooked.

As to the reduced cost of production, Mr. FREWEN made some remarks as to the difficulty of ascertaining it, and Sir GUILFORD MOLESWORTH stated that in one partly worn-out mining district silver was produced at a loss; but the figures quoted in his Paper were given on the best available authority, and it could not be seriously denied that the cost of production had been greatly reduced by new methods of reduction, as well as by the abundance of the ore. Broadly speaking, there was not the slightest doubt that in the large and well-established silver mines the cost was very low indeed.

Mr. GODDARD's pathetic complaint of the refusal of certain nations any longer to use silver as currency, and (if he would pardon him the expression) the sheer nonsense, copied from some American source, about refusing the gifts of providence, had no foundation whatever in fact, but were purely imaginative.

He was not aware of any moral law which enjoined on the rest of mankind the duty of giving to the silver miners more than the market price of their produce; though they seemed to be trying very hard to establish such a law.

As Mr. GODDARD said, silver was still the sole medium of exchange of two-thirds of the human race; and as to the western nations, although they had been compelled by its fall in value to stop its *free* coinage, thus making its coinage a government monopoly, they had by no means ceased to coin and to use all they could conveniently use, and they used more silver now than they ever did before. The United States had acquired over £100,000,000 in silver;

France had about £138,000,000 ; Germany probably about £40,000,000 (after selling £28,000,000) ; England about £26,000,000 nominal, but not of full weight, and the other countries very large amounts. He believed there never was so much silver money in use as at the present time, and it was the increased production, and not the decreased use, that had caused the present glut.

The remarks of his friend Mr. SQUAREY clearly shewed that he wholly failed to grasp the significance of this vast increased production—so vast that the purchases by the American Government to the extent of about £90,000,000 had failed to arrest the fall in price. He thought that was all he need say in reply to Mr. SQUAREY. Mr. ROLLESTON talked about destroying a great part of the money in the world, but that was purely imaginative ; and about forcing down the price of silver, but his friends the silver miners were the only people who had done that.

A diagram exhibited on the last occasion by one of the bimetallists appeared designed to shew that the gold price of silver remained constant from 1851 to 1873, and then fell at about the same rate as the gold price of commodities until 1888. But the gold price of commodities was represented as having risen 30 per cent. between 1851 and 1888. Therefore, if silver did not rise when commodities rose, but did fall when commodities fell, it must have fallen very much in terms of commodities between 1851 and 1888. How much it fell was stated in his Paper, and between 1888 and 1892 it had had a further serious fall. Therefore the value of silver in terms of commodities had fallen, and the most the bimetallists could shew was that this fall was suspended for a few years after 1873.

The date 1851 was the one fixed on by the Gold and Silver Commission : at that time the Californian gold was just

beginning to tell, the first year of greatly increased production having been 1849.

It had been related very complacently by Mr. FREWEN how immensely the discoveries of gold and silver raised nominal prices between 1540 and 1600, so that mortgagors (if any then existed) must have become rich, and mortgagees must have been ruined. That part of his Paper which dealt with the *effects* which the free coinage of silver would produce in this country had been passed over almost in silence.

It was something gained to have it clearly admitted by the bimetallists that, if their scheme were carried out, all persons with fixed incomes (including the working classes) would suffer a large practical diminution of income, and that Mr. GODDARD's statement that the change would be effected without injustice to creditors, only meant that in his opinion it would be just to deprive them of a considerable part of their property.

As to the "quantum," Mr. SQUAREY said he should like 1 to 15½, but would take what he could get; and Mr. CHAPLIN said much the same. They said, "admit the principle and afterwards settle the ratio by experts." It was very kind of them to be so accommodating, but he thought the proposed victims would prefer knowing the extent to which they were to be mulcted, before they admitted the principle, especially as they knew that the silver-using and silver-mining countries insist on 1 to 15½.

The plain fact was that silver had become so reduced in value, that its free coinage at anything approaching to such a ratio would mean an enormous reduction in our standard of value, and that there existed in the world no opportunity for such an increased use of it as would suffice to raise it again to its former price, unless silver-mining could be suspended. There was, however, the possibility that, at some

future time, the increased production and reduced value of gold might have some such effect.

Now, as to Mr. CHAPLIN's two great points:—He stated, as propositions he was prepared to maintain, that the abandonment of bimetallism in 1873 was a new experiment, and accountable for the depression in gold-using countries, and that it was desirable to revert to it. He represented this abandonment by the Latin Union as a voluntary act, and denied (at page 166) the speaker's statement in his Paper that it had broken down when tested by serious divergence; and he appeared to think he had proved his case by saying that the divergence in value occurred only after free coinage had ceased to exist, and not before. Mr. CHAPLIN could hardly avoid contesting this point, because it was the key to his position, and if he were proved to be wrong here, the case for bimetallism was lost. Yet this statement of his did not quite agree with the report he signed in 1888, which recorded, on the one hand, that the Convention for stopping free coinage was signed in 1874, and that it settled that such coinage was to cease in 1878, the amounts to be limited in the interim to something like what had been customary before the recent great increase; and on the other hand, that silver had fallen $1\frac{1}{2}d.$ per ounce in 1873, $2d.$ by 1874, and $8d.$ by 1878.

It had been remarked by Professor FOXWELL that nothing particular happened in 1873. Surely it was something that the annual production of silver had by that time more than doubled, and that the first sales of the German silver took place in that year.

Dr. GIFFEN had dealt exhaustively with the subject in two Papers, one entitled, "On Some Bimetallic Fallacies," and the other, "The Alleged Bimetallism of France." If he could read them those Papers he need not say another word. The results arrived at were, shortly, that, for

more than half a century up to 1850, 1 to $15\frac{1}{2}$ had happened to be about the natural ratio of value between the two metals, and that the world's annual production of each (always $2\frac{1}{2}$ to 3 millions of gold and from 4 to 8 millions of silver) was too small for any variation therein to largely affect the total stock, or the price. The small annual production in proportion to stock before about 1850, and very much larger proportion since, was a point often overlooked. France chiefly used silver, but had a little gold; the Bank of France was not obliged to part with this gold, and was very careful of it, and charged a small premium for it. Sir GUILFORD MOLESWORTH had challenged this statement of Dr. GIFFEN'S, but Sir JOHN LUBBOCK had strongly confirmed it. However, this point did not largely affect the question. The main consideration was that during this long period there was no great difficulty in maintaining what was, in fact, just about the real natural ratio. Then came the influx of Californian gold, which became, for a short time, the cheaper metal. A portion of this claimed free coinage in France; so that the coinage of that country became, for the first time, largely a gold one. But when the turn came, through the enormous silver discoveries (ten to twenty years later than those of gold), there was so large a profit in coining silver, and so much was coined, that it would soon have depleted the Latin Union of its gold, to the great loss of those countries. Therefore the free coinage had to be stopped, and there was really no choice in the matter.

M. HAUPT'S work, published last year, which gave the monetary history and statistics of Europe and America, contained a chapter on the Latin Union. He said:—"In 1873, " already there was a certain commotion noticeable amongst " the members of the Union. Silver, which up to then " had moved around the so-called par of $60\frac{7}{8}d.$, fell to 60, to

“ 59, and even under 58*d.*, and everybody had consequently
 “ the greatest interest to get as much coined of it as possible
 “ in order to profit by the handsome margin. The mints of
 “ Paris and of Brussels were regularly besieged by the im-
 “ porters of the depreciated metal, and the first one coined
 “ 154,000,000, the second 111,000,000 francs, in five-franc
 “ pieces, while even Italy, which had all the while had
 “ nothing but paper money in circulation, struck then as well
 “ 42,000,000 lire in five-lire pieces. The next year brings the
 “ contingency system along with it; these enormous coinages,
 “ it is said, cannot any more be tolerated, and by joint agree-
 “ ment, the amounts to be allotted to each of the five countries
 “ is fixed in the following manner:—To France, 60,000,000,
 “ to Belgium, 12,000,000, and to Italy, 60,000,000 francs.
 “ Every country hastens to get the very last five-franc piece
 “ permitted by this measure coined in the respective mints,
 “ as the price of metal had in the meantime declined to
 “ 57½*d.*, thus leaving a margin of about 3*d.* or 5*d.* per cent.
 “ net to the importers of silver.”

As this was very important, affecting the very root of
 bimetallic theory of the practicability of tying the two metals
 together, he would try to make it clear by an illustration.
 Gold and silver were, after all, merchandise, which could be
 bought and sold like any other metal. Suppose some
 capitalist announced that he would always be ready either
 to buy or to sell pig iron at 35*s.* per ton. The makers then
 sent all their surplus pig iron to him, but when there happened
 to be an extra demand, they bought some of it back again.
 For many years suppose the cost of production to be almost
 exactly 35*s.*, and that matters went on without very much loss
 to the capitalist. But suddenly some invention or trade
 change enabled pig iron to be made at 20*s.* per ton. Every
 spare furnace was at once blown in, and, though the value had
 altered, the price had not yet, since all the makers thought

they could get 35s. from our capitalist. He duly noted the change, and reflected that it would ruin him to go on. The first consignment arrived and was paid for, but he announced that he would buy no more. The makers had to sell elsewhere and to take the lower price. Mr. CHAPLIN would apparently say he had proved that the refusal of the capitalist to go on buying was the cause of the fall in price or value, because the latter followed the former. He (Mr. TUCKETT) suggested that it would be more correct to call that refusal the *occasion* of the fall in price, and to add that the decreased cost of production was the cause both of the fall in price and of the capitalist's refusal to go on buying.

The matter really did not bear serious discussion; it would clearly have financially ruined the Latin Union to go on giving unlimited free coinage to silver, and it was obvious that Mr. CHAPLIN's case was a bad one on that cardinal point, and this alone was fatal to the bimetallic theory.

Since he read his Paper he had seen a short letter in the *Morning Post*, entitled: "Bimetallism, the long and short of it." The writer said that sometimes the ratio of gold and silver had remained steady for long periods (as in the period for 70 years before 1850), and that during other periods, like the present, it had been greatly disturbed; and he said that, in the former periods, bimetallism could be used, but not in the latter. There was a good deal of truth in that, and the sooner silver was allowed to find its natural level, without any artificial purchases or other expedients calculated to stimulate its production, the less disturbance of international trade there would be.

It was scarcely worth while to comment on Sir GUILFORD MOLESWORTH's detailed explanation of how the values of the metals were to oscillate under bimetallism. Whilst their natural ratio remained nearly constant and about the same

as the one fixed upon, there might be something in it; but when one of the metals broke away and plunged down in value, as silver was now doing, any such ideas must be blown to the winds. He was also amused at this speaker's description of the *option* to debtors *only* to pay in either of two different standards, as a "combined" standard. He should have thought that a "combined" standard would be a coin made partly of gold and partly of silver.

Now, as to Mr. CHAPLIN's other great point. It was not possible to make quite such an accurate statement on either side, as to the purchasing power of gold. But it should be borne in mind that this must be treated as an entirely distinct subject, because, whether gold had gone up or down in value, it had been clearly demonstrated that it was impossible permanently to tie gold and silver together by an artificially fixed ratio, and therefore, whatever grievance might be alleged in respect of gold, it had been shewn that bimetallism would not be a proper remedy. In his Paper (at page 108) he had invited the bimetallists to state why for the normal value of gold from which to start, they chose just the time when Mr. FREWEN said that nuggets as large as a man's head were being picked up in Australia with hardly any labour, but he had got no reply. Mr. CHAPLIN passed that by, but roundly asserted that gold had appreciated 30 per cent. In one sense, to state that gold had appreciated in terms of certain commodities during the last twenty years was a truism, and was merely inverting the more common statement that the prices of certain commodities had fallen in terms of gold. But that was not what was meant. The question was, was the fall in prices due to causes affecting gold, or to causes affecting commodities?

It was asserted by Mr. CHAPLIN that the cause was one affecting gold. He gave only two reasons.

One was that it had had to do much of the work which, before 1873, was done by gold and silver. But this would hardly be true, since silver money had considerably increased in volume since 1873, thanks to the great American purchases. The other reason was the assertion that the silver prices of commodities had not risen. That might be partly true as to the very limited period between 1873 and 1888, but, as he had shewn, it was entirely untrue as to the time before 1873 or after 1888.

In describing him as inconsistent about the appreciation of gold, Mr. CHAPLIN appeared to have overlooked the distinction between the various periods mentioned. Some monometallists maintained that no alteration in prices due to gold had ever been proved. But he had stated that, in his opinion, at the time when, according to Mr. FREWEN, gold nuggets were almost going begging, there was some depreciation of gold. And, naturally, as these nuggets got dispersed and distributed over the world, the value partially recovered.

It was alleged that the average prices of commodities rose 30 per cent. from 1851 to 1873, and fell 30 per cent. from 1873 to 1888. Sir JOHN LUBBOCK had told them that all the fall could be accounted for by causes affecting commodities, excepting 5 per cent., which he attributed to gold. From 1851 to 1873, there did not appear to be any cause why commodities should rise (but rather the contrary) except the enormous increase in the stock of gold. Taking 5 from 30, it seemed a probable estimate that gold in 1888 was 5 per cent. dearer than in 1873, and fully 25 per cent. cheaper than before the Californian gold discoveries.

Before 1849, the annual production of gold and silver together never exceeded about £10,000,000. During the 44 years since, the average production of gold alone had been fully £24,500,000. If there had been no

silver at all, there would still have been an increase of $2\frac{1}{2}$ times in value. But there had been a vast increase in silver also—namely, from an average of about 24,000,000 ounces before 1850 to 145,000,000 ounces now, and the use of silver money had also increased. Multiplying $24\frac{1}{2}$ by 44 years, one got £1,078,000,000 of gold. If the old ratio of production had gone on, it would have been only £130,000,000. The total present stock being now estimated at £1,600,000,000, about two-thirds of it must have been mined during the last 44 years, and South Africa was about largely to increase its output. He saw by *Whitaker's Almanack*, that, whilst the stock of gold had trebled, the population of the United Kingdom had increased 30 or 31 per cent. All this did not look as if gold had become scarce. No mere disuse of silver (even if any had occurred) could alone make it so; and, as to the increased demand for gold, which would be more to the purpose, M. HAUPT's book gave all the coinages and estimated stocks of gold, and, so far as he could make out, the countries complained of as having partially substituted gold for silver, now hold about £400,000,000 in the dearer metal. That did not seem an undue proportion of £1,078,000,000 worth of new gold. It rather looked to him to point to a sufficient supply for all the new coinage that was found needful or desirable; and he expected, if more had been required for that purpose, it would have been provided without material disturbance of the market. He failed to see any indication in all this of a scarcity of money.

The present annual industrial consumption of new gold had been estimated by M. HAUPT at 85,500 kilogrammes, which would be about £11,000,000. That must not be considered as by any means fully proved, as the materials for such an estimate are slight;

and, in any case, such a figure could only very lately have been reached; but if it be true that £11,000,000 can now be spared for such subordinate purposes, when 40 or 50 years ago only £3,000,000 were produced, what an idea that gave of the increased abundance and comparative cheapness of gold! It could hardly be doubted that, though a little dearer than in 1873, it was far cheaper than before the Californian discoveries, and it seemed probable that it was going to be cheaper still. The continuance of the present rate of production should gradually have that effect, since Europe and America, having got their gold currencies, can hardly go on absorbing gold at the same rate. And when South Africa had a little more time to develop, he, for one, anticipated a more decided recovery in the prices of commodities.

The ample and sufficient cause of the great fall in the value of agricultural produce was apparent in the facilities of transit, labour-saving inventions, and improvements, mentioned in his Paper, and referred to by Sir J. LUBBOCK; and which Mr. GODDARD, curiously enough, stated as causes of increased prosperity, apparently forgetting that they had also the direct effect of reducing prices; and it should not be forgotten that there were a good many commodities, the supply of which was not unlimited, and which had increased in value all the time.

These considerations shewed that no case had been made out of any grievance resulting from our present gold standard, and that to change it arbitrarily would be unjustifiable. But he was very far from thinking or saying that, if some moderate increase in the amount of gold should result from natural causes, it would be an evil. He fully believed that South Africa would, before very long, make gold decidedly cheaper; but in the meantime, if some of those gentlemen who now spend so much time and energy in

advocating bimetallism, would devote some of it to convincing certain foreign powers that they are going considerably beyond what is necessary or desirable, at very great cost to themselves, in storing up such large amounts of gold in certain national treasuries and banks, these amounts being so very large compared to what has been found needful in this country, he thought they might perhaps hope to meet with more success.

But when this country had had a uniform gold standard ever since the resumption of specie payments, after the wars which terminated in 1815, one failed to understand the proposal to upset every relation between man and man, by substituting a silver standard, just at the time when the prodigious and ever-increasing production of cheap silver was carrying the latter metal very far upon the road to the position it occupied in the reign of King SOLOMON, when, as a previous speaker had remarked, "it was nothing accounted of." The question was not whether other countries were to give up using silver, but whether England was to change her standard.

It was alleged by Mr. ROLLESTON that the National Debt existing before 1816 was specially repayable in gold or silver. But all that debt was long ago paid off; what was now owing had been reborrowed long since at a much lower rate of interest; and one great cause of the lower rate was confidence in the English gold standard.

They had had the advantage of hearing the actual leaders of the Bimetallic League fully state their case. Sir JOHN LUBBOCK had given them some very valuable information, and Mr. BEKEN some interesting facts about the Income Tax, and so on. He had tried to give them the plain facts and figures from the official sources, and he thought those members who took the trouble to study these

for themselves, would not have much difficulty in arriving at the right conclusion.

After listening to all that Mr. CHAPLIN and his friends had to say, he was not less impressed than he had been previously, by the weakness of their arguments, and he now felt increased confidence in recommending his Paper to them, not as an exhaustive treatise, but as what alone it professed to be, and within the needful limits of time and space could be, a perfectly fair, short explanation of the subject.

The Meeting then adjourned.

THE ARBITRATION ACT, 1889.

By G. M. FREEMAN (Associate).

*Read at the Ordinary General Meeting of THE SURVEYORS'
INSTITUTION, Monday, February 20th, 1893.*

CHARLES JOHN SHOPPEE (PRESIDENT) IN THE CHAIR.

THE Arbitration Act of the year 1889 is of great practical importance to two classes of professional men—lawyers and surveyors. The former must clearly understand what in fact they are doing, what rights they may be surrendering, or what advantages they may be gaining, when they advise their clients to enter into a submission to arbitration. The latter, inasmuch as they, more often than any other class, have to fulfil the duties of arbitrators, must clearly understand what those duties are. The Act has worked considerable changes both in the procedure and results of arbitration. Nevertheless its scope seems to be imperfectly understood by many sections of the community. Had its real meaning and machinery been grasped, I do not think we should have heard as much as we have lately heard as to the delay and expense of arbitration, nor do I think that curious creation of the City brain, the Commercial Court of Arbitration, would have been devised. The aim and end of the Act is to make arbitrations speedy, final, and economical; and since that Act has become law, if any man is harassed by delay or vexed by undue cost in arbitrating his differences, it is entirely his own fault.

The Act deals with two classes of reference—compulsory and voluntary. Compulsory arbitration arises when, an action having been brought, the Court either orders the

whole matter to be referred to some skilled person for trial and determination (in which cases the finding of such arbitrator is equivalent to a verdict of a jury, is enrolled as a judgment, and enforceable as such), or else directs that certain points or matters generally of account or scientific examination be referred to one of the official referees attached to the Court or to some special referee. In the latter case the referee reports his conclusions to the Court, which then may either adopt the whole or part of his report, or reject it out and out, or refer it back to him for further consideration and report.

Voluntary submissions to arbitration embrace all those cases where, in order to avoid the law's delays, men agree to refer their disputes to some third person in whom they have confidence; and this is the part of the Act which mainly concerns surveyors, from a practical point of view. The scope of the Act here is very wide. It applies to all disputes and references in the ordinary sense of the word, and it also applies to all arbitrations provided under any Act of Parliament "except in so far as the Arbitration Act is "inconsistent with the Act regulating the arbitration" (Sec. 24). These words have received judicial interpretation; and the declared intention of the Courts is to apply the Arbitration Act to all arbitrations under previous statutes, unless its provisions are absolutely inconsistent with the former Act, so that, if the Court insisted on reading this Act with the previous statute, it would render the arbitration unworkable and bring matters to a deadlock: see *Knight v. Tabernacle Permanent Building Society*, 39 *Weekly Reporter*, page 507.* It has therefore been held applicable to arbitrations under Building Society Acts; and, although such Acts may leave the doing or not doing certain things to the option of the arbitrator, the Courts will

* This case will be reported in Part I., Vol. VI. of the "Professional Notes."

apply the powers of the Arbitration Act, and make compulsory what was previously optional. For instance, although the Building Societies Act, 1874 says that the arbitrator may, if he think fit, state a case for the opinion of the Court, it was held, in the above-mentioned case of *Knight and the Tabernacle Building Society*, that if the Court thought fit they might, and in that case did, order the arbitrator to state such case, thus transferring the discretion from the arbitrator to themselves. So, again, the Arbitration Act applies to the Lands Clauses Consolidation Act, 1845, except in certain respects where the provisions of the two Acts being inconsistent, those of the Lands Clauses Act prevail. These chiefly relate to the appointment of arbitrators and umpire, and the payment of costs by the parties. We shall have occasion, later on, to consider some of these differences more in detail.

The submission to arbitration may be in the simplest and most untechnical language imaginable, the only requirement being that it shall be in writing, a submission being defined by Section 27 of this Act as “a written agreement “to submit present or future differences to arbitration, “whether an arbitrator is named therein or not.” But when once made it is irrevocable except by leave of the Court. The meaning of these words is that the submission to the particular arbitrator when once appointed cannot be revoked except by leave; the agreement to refer the dispute to *some* arbitrator can never be revoked so as to entitle one of the parties to go to some other tribunal. The leave to revoke submission even to a particular arbitrator is very charily given by the Courts, the most usual case being where either the arbitrator has, since his appointment, become interested personally in the subject matter of the dispute, or where, subsequently to accepting the particular arbitrator, one of the parties has discovered that such arbitrator had an interest in the dispute unknown to the person in question.

An illustration of this principle is to be found in the case of *Barings and Doulton's Arbitration*, 8 *Times Reports*, page 701, where, a submission having been made to a firm of engineers, and all the members but one having subsequently retired, objection was raised to going before the remaining member, because he was in actual litigation with one of the parties; and the Court gave leave to revoke the submission on the ground "that if circumstances arise "since the submission which make it probable that the "arbitrators will have a bias, then the discretion of the "Court should be exercised."

But, however simple in form it may be, a submission, by the mere operation of the Act, incorporates in itself a great number of provisions of which a person not knowing the Arbitration Act would be entirely ignorant, and which, when he did discover their existence, would considerably astonish him.

A writes to B: "As we cannot agree upon the price for "the work I have done for you, let it go to arbitration," and B writes back: "I agree." This seems about as simple a reference as can be imagined, and yet by those few words A and B have accepted and bound themselves to fulfil a whole host of conditions. They have agreed that the reference shall be to a single arbitrator instead of the customary arbitrators appointed by the parties and umpire selected by the arbitrators; or the tribunal of three arbitrators which under the Building and some other Acts exists; and, further, that, if they cannot agree upon an arbitrator, the Court shall find one for them (Sec. 5). They have agreed that the award shall be made within three months unless the time is expressly extended. They have agreed to submit themselves and all persons claiming through them to examination on oath, to produce all their books, papers, and documents which are required or called for; and to do all other things which, during the proceedings, the arbitrator may require, which

last seems to give about as wide powers as the most exacting arbitrator could require. They have agreed that the award shall be final and binding on themselves and all persons claiming through them. And, lastly, they have agreed to pay the costs in the manner and in the proportion settled by the arbitrator, including a liability, if he shall so direct, not merely to pay the ordinary costs, but also costs on the much higher scale as between solicitor and client. All this is covered by the simple words by which A and B agreed to refer, because Section 2 lays it down that a submission is to be deemed to include the provisions contained in the first Schedule to the Act, so far as they are applicable to a reference under the submission, unless a contrary intention is expressed therein. The method adopted here is the same as in the Conveyancing Act. You need no longer state in every conveyance, any more than in a submission, all the usual terms and conditions. They are all assumed to be there because they form part of the general Act, and if you want them not to apply to the particular reference you must state so plainly. As regards the Lands Clauses Consolidation Act, many of these consequences will not follow. Unless the parties agree on a single arbitrator, the procedure under that Act will prevail, and the arbitrators will be appointed by the parties, and will in turn appoint their umpires. Nor will they have the invidious task of determining costs. These will still depend on whether the claimant obtains more than the previous offer, and their amount must be settled by the taxing master in the usual manner.

In references under the Arbitration Act, considerable elasticity is given to the arbitrators, and the effort seems to be to keep the whole thing as simple as may be. If the reference is to two arbitrators, they are to endeavour to settle the matter between themselves, and are not at once to appoint an umpire, but may do so at any time within the period during which they have power to make their award.

Then, again, they are not to be unduly hampered by limits of time. As a rule, they have three months in which to award; but, if for any cause they find this time too short, they may extend it, by writing under their hands, and, if they have even allowed the time for making the award to run out, the matter is no longer hopeless, because the Court can put the arbitrators right by extending their time for them. The umpire's duties begin either when the arbitrators have let their time run out without making an award, or have informed him, in writing, that they are unable to agree. He, too, has considerable latitude in time. Nominally, he is to make his award within one month after the original or extended time appointed for making the award by the arbitrators has expired. But, as he may from time to time, by writing under his hand, extend his time, the limitation of time is more apparent than real; and, even if he does allow his time to expire, the Court will give him the same assistance as it gave the arbitrators. The statement of the Act that the award is to be final is a little misleading, inasmuch as by Section 10 it is provided, "in all cases of reference to arbitration, the Court or a judge may from time to time remit the matters referred, or any of them, to the reconsideration of the arbitrators or umpire." Under the law, as it previously stood, awards could only be referred back in cases where the reference was compulsory, under the direction of the Court. But now the power equally exists in cases of voluntary reference. The award is also binding on all parties. The meaning of this word becomes clearer when we turn to Section 12, and find that "an award or submission may, by leave of the Court or a judge, be enforced in the same manner as a judgment or order to the same effect." That is to say, that when an award has been obtained it is not necessary to bring an action to enforce it, but application

may be made to the judge in chambers for leave to enforce it, as though the award had been a judgment of the Court itself. If, therefore, the award relates to recovery of money, ✓ it may be enforced by execution ; if to recovery of land, by writ of possession ; if to recovery of property other than land or money, by writ of delivery or attachment or sequestration. It would, however, seem that no change has been made in enforcing an award under the Lands Clauses Consolidation Act, and that the remedy is still by action upon such award.

As before stated, one of the great objects of the Act is to prevent improper delay, and, by Section 5, summary methods are introduced for upsetting any dilatory tactics on behalf of either party. If the reference is to a single arbitrator, and both parties do not or cannot agree upon his selection, or where such arbitrator has been appointed but refuses to act, or is incapable of acting, or dies, and the parties fail to supply a successor ; or where the parties or their arbitrators, being entitled to appoint an umpire or third arbitrator, fail to do so, or where such umpire or third arbitrator, having been appointed, refuses to act, or is incapable of acting, or dies, and the parties fail to appoint his successor, the party desiring to move on may call upon his opponent to proceed to the required appointment, and, if such opponent does not within seven days comply with the request, the other party may apply to the Court, who will themselves make the required appointment in place of the parties. Such application may be made to a master in chambers on an ordinary summons, after two days' notice.

Section 6 of the Act provides a remedy for delay which is very drastic, but which should be sparingly used. In cases where the reference is to be to two arbitrators, and one of them dies or cannot act, the party who appointed him may appoint a new arbitrator in his place. But, if one of the parties fails to appoint his arbitrator, either originally or

in substitution for his arbitrator who has died or failed to act for seven clear days after he has been requested so to do by his opponent, who has meantime himself appointed his own arbitrator, such opponent may reappoint his arbitrator to act for both parties, and the award so given shall be final. But then comes an important proviso that "the Court or a judge may set aside any appointment made in pursuance of this section." As a matter of experience, it is found that the judges look very closely into such appointments, and are unwilling to let them stand if the defaulting party can shew that the failure to appoint was in any way due to oversight or mistake, or even neglect, of his surveyor or solicitor. And although in such cases the Court will not always go the length of cancelling the appointment, they yet put so much pressure upon the parties that, in the end, it becomes necessary to assent to a new arbitrator or umpire being selected. So that in fact, unless it can be shewn that the other side, with full knowledge of the facts and effect of such decision, refused to appoint their arbitrator, it is much safer to apply to the Court, under the other provisions of the Act, to supply the vacancy.

By Section 10 a new power is given to the Court of, from time to time, remitting the matters referred, or any of them, to the reconsideration of the arbitrators or umpire—and this in all cases, whether the reference be voluntary or compulsory. The most usual cases where the Court is asked to remit matters to an arbitrator are where it is alleged that the arbitrator has exceeded his powers or has misunderstood the scope of the reference. An example of an award remitted on this ground may be found in the case of *Green and Balfour's Arbitration*, reported in Vol. 63, *Law Times Reports*. There a dispute arose as to the quality of certain goods, the purchasers contending that the samples tendered were not equal to the contract guarantee, and both sides referred the

matter to arbitration. Evidence was given before the arbitrators of a custom of the trade, that, where there was a deficiency or inferiority in the quality of goods tendered under a contract, arbitrators might, by their award, make the buyer take the goods, with an allowance by way of compensation fixed by the award. The arbitrators awarded that the buyers accept the goods, and that the sellers make an allowance to the purchasers of so much a case. It was held that all the arbitrators had to determine was whether the goods were up to the guaranteed quality, and that by their award they had exceeded their authority. The award was therefore remitted to them for fresh consideration. An instance where the Courts refused to remit may be found in the case of *McClellan and Marcus' Arbitration*, reported 6 *Times Reports*, page 355, where the meaning of a charter party was referred to arbitrators. It was urged that they must confine their attention to the bare words of the document, but they heard evidence as to the meaning of the parties when they made the agreement, and as to the damages which had been incurred, and gave their award for a sum of money. The Court, on the ground that they had not exceeded their authority, refused to send the award back to the arbitrators.

The Act, by Section 11, emphasises the right of the Court to remove any arbitrator who has misconducted himself. Such misconduct comprises, first, all corruption or interested bias, as, for instance, if the arbitrator is himself interested in the subject-matter of the dispute; or if the decision, one way or another, will be of pecuniary advantage to himself; or if he has accepted a bribe from either party. Of course, any such allegation must be strictly proved, and a mere alleged admission of misconduct made to other persons will not be sufficient to invalidate his award. Misconduct also includes all legal misconduct, although no

moral turpitude may attach to the acts of the arbitrator, *e.g.*, if he has refused to hear all the evidence, or has taken evidence in the absence of one of the parties, or has taken affidavits in place of verbal evidence, or has refused a reasonable adjournment to enable one of the parties to procure the attendance of his counsel or an important witness, or has refused to consider a portion of the case, or has accepted hospitality from one of the parties; or, in some cases, where a gross mistake of calculation has been made, *e.g.*, where the umpire deducted one sum from another instead of adding the two together, and so brought the balance in favour of the wrong party. In all cases where an arbitrator or umpire is removed for misconduct, his award is set aside. It is not unimportant to observe that, where an umpire, who was perfectly innocent himself, has sat with and consulted an arbitrator who, unknown to him, was secretly and corruptly interested in the subject-matter of the arbitration, the umpire's award has been set aside.

For the purposes of this Paper I need not spend much time over that portion of the Act which deals with references under order of Court. Such references generally are in the form of referring some particular matter or issue which has arisen during the course of a trial, the most frequent being the amount of damages. Where, however, the whole dispute relates to complex matters of account or some scientific or technical consideration, the question is bodily referred to a special referee, usually, but not always, agreed upon by the parties. The arbitrator must carefully distinguish whether his duties involve the trial and decision of the action or whether he is merely to inquire and report. If the latter, he must address his conclusions to the Court which has referred the matter to him. He must state the facts sufficiently to enable the Court to judge whether he has

decided rightly, but need not state the reasons of his findings upon issues of fact unless specially required to do so by the Court ; and, if the matter referred to him is in the nature of an account, he must state which items he allows and which he disallows, and must not merely state the result. If the entire action is referred to him, he need only state the final result to which he has arrived. In conducting these references, the special referee has the same powers as a judge, and his conduct of the inquiry is unfettered. He may require witnesses to attend and be examined on oath ; may call for the production of books and papers ; and may do all other things necessary for the fair trial of the issues. If a witness refuses to attend, the referee may obtain from the Court an order for his compulsory presence ; and, if it becomes necessary to examine a prisoner, the Court will grant him an order requiring the authorities of the gaol to produce such prisoner at the inquiry.

It now becomes necessary to notice the provisions of Section 19 of the Act, which has conferred very important rights upon litigants in arbitration, and has placed duties upon arbitrators which, I fear, may in some cases materially increase their labours. Under the old procedure it frequently happened that a claim was made which, even if every fact which the claimant stated turned out to be true, would still not have entitled him to succeed, because, either from defect in title or from some other legal impediment, he was never in the position to legally enforce his claim. A man might be perfectly correct in saying, “ You have taken from me something which is worth to me £10,000, or you have injuriously affected property to the extent of a million ” ; but he might not be entitled to claim that price or enforce those damages. Any one of the following conditions might have arisen, as, in fact, in reported cases they severally did. He might have no title to the property

at all, being a mere squatter; or he might have a less interest than he supposed, being only a yearly tenant or tenant at will, instead of a lessee; or he might claim a false value, based on the calculation of what the property would be worth to the purchaser instead of what it was to himself when subject to restriction of user, as in the case of *Stebbing* and *The Metropolitan Board of Works*; or he might claim for damages which had already been compensated for, as in the *St. John's Wood Railway* case; or he might claim as damages something which was not injury within the meaning of the Act of Parliament, as in the case of *Ricketts* and *The Metropolitan Railway*, or *Brand* against *The Hammersmith Railway*, or as was alleged in *Howard* against *The Metropolitan Board of Works*. In all these cases, however strongly the purchasers believed that the claimant was formulating demands which he would ultimately fail to sustain, they were obliged to go through the labour and incur the cost of contesting the claim before a jury or arbitrator, on the bare chance that the claimant might turn out to be right. Then, when jury or arbitrator had done their part, the purchaser must refuse to accept the verdict or take up the award. If a verdict had been given, an action must be brought to enforce it, or if an award, a mandamus to compel the promoters to take it up. Not till that period could the question of law or title be decided, although its decision might have eliminated all the expense of the inquiry, and with this further injustice that, however right the promoters might turn out to be, they could not recover one penny of the costs they had incurred in appearing before the jury or arbitrator.

Or it might happen that issues were laid before an arbitrator which were outside his jurisdiction, and it might become plain that he was about to receive evidence upon those issues, and to allow such evidence to influence his award. If such evidence was wrongly received, it would

vitiating the award. What was the dissatisfied party to do? He might protest; but what if the arbitrator disregarded or overruled his protest? There were then only two courses open to him. He might wait until the award was made, when he could apply in court to bring the award up for the purpose of quashing it, upon the ground that, by receiving the evidence in question, the arbitrator had exceeded his jurisdiction, and, if he succeeded, might then start the whole inquiry over again, with the pleasing consciousness of having wasted the whole of the costs of the first inquiry. Or as soon as the objectionable evidence was tendered, and he had a ruling from the arbitrator that he was about to receive such evidence, he might apply to the Court to revoke the submission to arbitration, upon the ground that the arbitrator was about to make a mistake and to legally misconduct himself. It is a very significant fact that we only find one single reported case where this course was successfully taken, and that a case so exceptional that the judges in the later cases have declared that it must not be regarded as a precedent. This was the famous case of *Kirk & Randall v. The East and West India Dock Company*, reported L.R., 12 Appeal Cases, page 739.* The contract related to the construction of the Tilbury Docks, and a dispute having arisen, in which the contractors claimed that they had not received sufficient payments, and sent in to the company a claim for some £250,000 in excess of the payments they had received, the matter was referred to arbitration. It was contended for the contractors that they were entitled, in respect of a great part of the work done, to prices other than the prices specified in the schedule attached to the contract, on the ground that such work was not the work priced in the schedule, but other work for which the arbitrator had jurisdiction to fix fair prices. In

*For a report of this case, see "Professional Notes," vol. iii., page 289.

support of this view, the contractors tendered, in evidence, a section of eight borings seen by them at the engineer's office, but not forming part of the contract drawings at the time of the tender. The company objected to the admissibility of this and other evidence, on the ground that the rights of the parties were fixed by the contract. At the close of the contractors' case, which lasted 67 days, the arbitrator delivered a written decision overruling the objections, and stating that he held the evidence in question to be relevant and admissible as a necessary part of the narrative of the case and as illustrating and identifying the subject-matter of the contract. Application having been made by the Dock Company for leave to revoke the submission, the Court held that they had power to revoke the submission when it appeared that the arbitrator was going wrong in point of law, even within his jurisdiction; and that this power would be exercised in the case in question, unless the parties agreed to the arbitrator raising the question in a special case for the opinion of the Court. This solution was accepted; and therefore, even in this solitary case, the submission was not, in fact, revoked. An attempt was made to follow this precedent in the case of *The Chilworth Gunpowder Company* and *The Manchester Ship Canal Company*, reported in 8 *Times Reports*, page 79, but failed, and strong remarks were made by the Judges on that occasion as to the inconvenience of this method of procedure, and the extreme rareness of the occasions upon which it had been employed. Practically, therefore, however wrong in law the arbitrator was going, the parties had no remedy until he had given his award. But by Section 19 of the Arbitration Act this is changed. The section declares "any referee, arbitrator, or umpire may, at any stage of the proceedings under a reference, and shall, if so directed by the Court or a judge, state, in the form of a special case for the opinion of the Court, any question of law arising in the course of the

“reference.” As soon, therefore, as it becomes evident that one party is proceeding on a wrong basis, has formed a view of his rights not consonant with legality, or is about to produce before the arbitrator evidence which may be legally objected to, the protesting party should request the arbitrator to suspend the proceedings and state a case for the opinion of the Court upon the points in question. If the arbitrator declines to do this, application should at once be made to the judge on affidavits, stating the facts, for an order to require the arbitrator to state such case, which he must then undoubtedly do. A case has quite recently occurred shewing the great advantages to be derived from the new procedure. In *Belton* against *The London County Council*,* a claim was brought for the value of certain shops and houses, the value of the rent of a public-house during the term of a lease, and the value of the reversion of the license after some 26 years. The price of all except the reversion to the license was agreed in the course of the arbitration, but when the license was mentioned the Council took the objection that the arbitrator was not entitled to give anything for so distant a reversion to a thing which was not property in the ordinary sense, but something personal to the occupier. After some discussion, it was agreed that this point should be raised in the form of a special case for the opinion of the Court, before any evidence of value was given. In less than a month from the question being raised at the arbitration, the case had been settled, argued, and decided by the Court; and the arbitrator, thus informed of his legal position, is enabled to finally and speedily determine the amount of compensation to be paid. This was a signal instance of the convenience of the new over the old method, where the parties would have had to wait until the arbitrator had awarded on one basis or the other, apply to the Court to set

* This case will be reported in Part I., Vol. VI. of the “Professional Notes.”

him right, and then, perhaps, reargue the whole matter again. There is, however, one regrettable drawback to this power of stating a case. The Court has laid it down, in the case of *Knight v. Tabernacle Building Society*, that its jurisdiction in dealing with a special case is consultative only, and that the opinion expressed is not an order. Hence it follows that there is no appeal. Now, in cases where large interests are concerned, neither party would be content to risk all upon the decision of a Court of first instance. The result will probably be that, while in small cases the arbitrator will be asked to state a case for opinion as he goes along, in important cases the matter will be fought out, and he will be requested to raise the whole question by stating his award in the form of a special case. Many lawyers consider that the decision in the *Tabernacle* case was wrong, and that an appeal will lie. It is to be hoped that this point may very soon be determined by the House of Lords, and, if it is decided that the Act as it stands gives no appeal, that it be amended so as to effect that object.

No paper or arbitration would be complete unless it said a word about costs. Under the new Arbitration Act, costs of reference are in the discretion of the arbitrator, who may direct by whom, to whom, and in what manner they are to be paid; but this is not so under the Lands Clauses Consolidation Act, or any other Act, which in express words directs how the costs are to be borne. In certain cases he may tax the costs and settle the amount. This he will never do unless requested by the parties, and very seldom even when requested. The task is a thankless one, requiring special knowledge, and much better effected by one of the taxing officers. Lastly, he may in some cases award costs to be paid as between solicitor and client. This should only be done in rare cases, where one of the parties is greatly in default and, by

obstinacy, has obliged his opponent to incur unnecessary or excessive costs.

But the arbitrator must not neglect to secure his own remuneration. If he is appointed by the Court to adjudicate or report upon an action, his remuneration is fixed by the Court. If the reference is voluntary, the arbitrator may fix the amount of his own remuneration in his award, as was done in the case of *Stevens v. Liverpool and Globe Insurance Company*, reported 36 *Solicitors' Journal*, p. 464: this he has a perfect right to do, and the amount cannot be questioned. He may also, without fixing it in his award, decline to give his award to the parties until his costs are paid. When once the award has been taken up and the charge paid, the party taking up may, if successful, sue the other side for the arbitrator's fees, and such other person may require them to be taxed; but as against the arbitrator they cannot be reduced, nor can the arbitrator be required to submit to taxation. In the case of the Lands Clauses Act, of course the arbitrator retains his award until his fees are paid. In many cases it is not unusual to agree, as between all parties, the amount to be paid to the arbitrator for each sitting, and he can then sue for his fees under the agreement.

The Arbitration Act, 1889, was no doubt passed as a concession to the cry for cheap law; but, unlike most concessions to a popular demand, it has not sacrificed efficiency to economy. Under its provision arbitrations have been conducted with smoothness, terminated with alacrity, and paid for with the minimum amount of grumbling. As a rule, litigants have felt that justice has been done all round, and, while arbitrators continue to be such as they have been in the past, there is no reason why they should not long enjoy the respect and confidence of the public which has been their portion hitherto.

Mr. T. CHATFIELD CLARKE (Fellow) said he felt a peculiar pleasure in moving a vote of thanks to Mr. FREEMAN for his very clear and excellent Paper. The Institution was greatly indebted to those legal Members, holding high position in their profession, who, from time to time, compiled and read Papers tending to render clearer the many branches of the law in which surveyors were interested, and he was sure that by no means the least of such debts of gratitude was due to the author of the Paper just read.

He gathered that Mr. FREEMAN was of opinion—and it was an opinion that would be shared by anyone who carefully read the Act—that the Arbitration Act of 1889 was a good common-sense Act, and a decided step in the right direction. Mr. FREEMAN had expressed a little good-natured contempt for what the City had done with regard to the question of arbitration, but, with due submission to his judgment, he (Mr. CLARKE) thought that the principle involved in the City Court of Arbitration, of having a large number of arbitrators to whom to refer special subjects with which they were familiar, was in itself a very defensible principle under the present system. Intricate building cases were sometimes heard before a barrister, who, in the nature of things, could know practically but little of builders' work or builders' terms, and almost interminable discussions and explanations were necessary to enable the legal arbitrator to appreciate matters which were mere A B C to professional surveyors. As to how the arrangement might be applicable in practice he would express no opinion, but, without doubt, the principle of having a number of arbitrators in the City of London, all men of standing in their particular vocations, was distinctly an advance in the direction of the satisfactory settlement of commercial disputes.

The Paper read by Mr. FREEMAN would, when published in the "Transactions" of the Institution, be of most

valuable service to Members from day to day, because in it the technicalities of the Act were explained with a simplicity and lucidity which might have been expected from one accustomed to put facts plainly and clearly. In moving a hearty and cordial vote of thanks to the learned author, he did so, not as a matter of form, but as a matter of duty and gratitude to a gentleman who had at all times shewn himself ready and willing to render valuable service to the Institution.

Mr. P. E. PILDITCH (Fellow), in seconding the vote of thanks, said he had no doubt that the Members present would share with him the pleasure he felt in listening to a Paper which would undoubtedly be of such great benefit to them in their personal daily work. The attitude of a surveyor with regard to such a Paper as this must undoubtedly be mainly that of inquiry, and one or two questions had occurred to him which he would mention, in the hope that Mr. FREEMAN would give the Institution the benefit of his opinions on the points involved.

The right keynote had undoubtedly been struck by Mr. FREEMAN when he said that the scope of the Arbitration Act had not yet been perfectly understood. Surveyors generally had not, up to the present time, fully grasped the meaning and scope of the Act, but one point at least the Paper had made clearer than before to some Members. The author said that the Act was intended by the Courts "to apply to all arbitrations under previous statutes, unless its provisions are absolutely inconsistent with the former Act." Upon the arbitration clauses in a good many other Acts besides the Lands Clauses Acts, differences of opinion had arisen between surveyors as to how far the Arbitration Act applied and how far the specific Acts themselves applied. The Paper made it clear, in principle, how far the two Acts

were to be read together ; but it would have been more satisfactory if it had gone into a little further detail. He would like to know, for instance, how far the Arbitration Act should be read with the Agricultural Holdings Act. Nine out of ten arbitrations in which country surveyors were engaged were arbitrations under the latter Act. One point upon which the two Acts differed was that of appeal. Under the Agricultural Holdings Act, the appeal was to the County Court ; under the Arbitration Act the appeal, apparently, was to the higher Courts. He would like to know whether the right of appeal to the County Court overrode altogether the right of appeal to one of the higher Courts, or whether that appeal could be brought subsequently.

With regard to the illustration given at the commencement of the sixth paragraph, he would ask whether Mr. FREEMAN was perfectly clear that the quoted correspondence between A and B would set up an arbitration at all. "The price for the work done" would surely be a matter of valuation ; and it had been held that where the matter was merely one of valuation, and could be tested by the skill of the arbitrator alone, without a judicial inquiry, then an arbitration was not set up.

Referring to the case of *Green and Balfour's Arbitration*, cited in the Paper, a very similar case occurred where a surveyor, who was an arbitrator, awarded something in the nature of a compromise, which was disallowed by the Court in this case. It would be interesting to know what was the nature of the submission in the *Green and Balfour* case, because the matter would presumably be governed by the exact wording of the submission. Arbitrators could sometimes only do substantial justice by a compromise in matters of detail, and it would be a pity if their power to do so were seriously curtailed.

As to the power given by the Arbitration Act to compel

any referee, arbitrator, or umpire, at any stage of the proceedings, to refer a matter of law to a Court or judge, he presumed that this referred to the Lands Clauses Act as well as other Acts. He would ask whether it covered the large questions of title which arose in compensation cases. If it did, it seemed to him that this clause would add one more to the terrors which compensation cases had for the surveyor. Even now, arbitrators and witnesses had often to put off important engagements in order to attend the Courts, sometimes only to find that their case was adjourned, and this clause might make unavailing attendances even more frequent.

He had very great pleasure in seconding the vote of thanks to Mr. FREEMAN for his excellent and valuable Paper.

Mr. H. FOULKS LYNCH (Visitor), speaking as a stranger, said he did not wish to criticise the Paper in any hostile spirit, for he felt, as most of those present must feel, in the position of a disciple sitting at the feet of a master; but there were one or two points on which he ventured to ask for some further assistance from the learned author.

With regard to the terms of the submission to arbitration, he would ask whether a verbal agreement to submit differences to arbitration was not binding. He believed that, if matters were verbally submitted to arbitration, and the arbitrator made his award, there was a complete agreement, which would be enforced by the Courts in the usual way. He did not at all suggest that this would be a wise proceeding; but, if it were done, and the agreement were not one affecting land (which, of course, would come under the 4th section of the Statute of Frauds), he imagined it would be in law a good and binding agreement.

As to the question of costs, there was, he believed, a

case in which it had been decided that, although the arbitrator did not enter into any agreement for his costs, yet, if he were a commercial man (it was not clear that this applied to a professional man), the law implied an agreement by the parties to pay the arbitrator for his loss of time, and upon that implied agreement he could sue the parties or either of them. That was an important matter for arbitrators, and one on which Mr. FREEMAN's opinion would be valuable.

Mr. ARNOLD STATHAM (Associate) wished to add his tribute of praise to this Paper, which, he felt, added one more to the long list of able expositions of special subjects of which the Institution was so justly proud. He, as a barrister, looked upon the Institution as still forming part of his legal education. He had attended the Meetings of the Institution as a listener for many years, with a view to educating himself, and he felt immensely indebted for the valuable information he had thus acquired. Although speaking of a brother barrister, he hoped he might, without the least suspicion of flattery, say that Mr. FREEMAN, in his Paper, shewed a thorough grasp of the spirit of the legislature in passing this Act of Parliament, and of the operation of the various judgments that had been passed upon it.

Either unqualified eulogy on the one hand, or hyper-criticism on the other, was out of place in discussions upon Papers read at those Meetings; and he thought the desire of those who were privileged to take part in them should be, if possible, to supplement by information the Papers which, owing to their brevity, could not deal exhaustively with the subjects investigated. He had a tolerably long experience in connection with arbitrations, and would ven-

ture to speak of one or two matters, the discussion of which, he thought, would be useful.

In the first place, his experience led him to the conclusion that the reason why arbitrations were so popular was not so much owing to fear of costs or hatred of lawyers, as on the ground of convenience. An arbitrator was, as a rule, able to fix the place and time of proceeding to suit the convenience of all parties, and litigants were not exposed to the tedious delays and irritating uncertainty attending a trial in the Royal Courts. In the various arbitrations in which he had been concerned, particularly in the north of England, he had never known a case in which the arbitrators or umpire had refused a reasonable application for adjournment; whereas, for one reason or another, for which the parties themselves were not responsible, the judges at the Assizes or in the Courts were very frequently compelled to refuse such applications.

Another reason for the popularity of arbitrations was that parties could select their own judges—men in whom they had confidence, and whom they knew to be competent to speak with authority on the particular matter to be submitted to them. He instanced a case in which he was recently engaged, in which an artist of considerable repute was claiming from a firm of art decorators certain moneys for, or in relation to, mural decorations, painted ceilings, and other work. That case was decided by an art critic whose special knowledge enabled him to cross-examine the experts on both sides in such a way as to satisfy everybody concerned. If that case had been tried before a jury it would have involved a much greater expenditure of time and money, and it was almost impossible that the result could have been so satisfactory.

Another reason for the preference for arbitrations was

that every man in England, when he went before the Courts, was supposed to know the law. Yet it frequently occurred that the Divisional Court reversed a decision of the judge below, that the Appeal Court reversed the finding of the Divisional Court, and that the House of Lords—not unanimously, but by a majority of the Law Lords—upset the decision of the Court of Appeal. In these circumstances it was not surprising that men of common sense began to doubt whether, even if the law was knowable, it was worth knowing. All such appeals involved enormous expense and loss of time, which were not compensated for even by solicitor's and client's costs.

It might be that arbitrators' fees were heavy, and that the preparation of a complicated case involved a large initial expense, but, at any rate, litigants knew the limits of the contest, and that it would have careful and prompt attention at the hands of competent men; but finality was the main advantage of the tribunal to which the Paper specially referred.

To come to a few special matters, he would first of all warn those who desired to have the benefit and shelter of the arbitration clause, not to delay an instant, after action brought, in insisting upon reference to arbitration. He had in his mind one case in which an action was brought for breach of an agreement, the agreement itself containing an arbitration clause. The defendant applied for security for costs on the ground that the plaintiff was a man of straw. Afterwards he sought to set up the arbitration clause. The Court held that, inasmuch as he had taken a step in the action (by applying for security for costs), he had waived his rights, and Section 4 of the Arbitration Act, 1889, did not apply. That was the case of *Adams v. Catley* (66 L.T. 687, 40 W.R. 570 D.)

Another was a case under certain articles of partnership,

which provided that the partnership should continue for 21 years, and that, if any difference arose between the parties in regard to the construction of any of the articles, or to any division, act, or thing, to be done in pursuance thereof, or to any other matter or thing relating to the said partnership or the affairs thereof, such difference should be referred to arbitration. One of the partners brought an action, before the expiration of the term of 21 years, for the dissolution of the partnership, on the ground that it could not be carried on at a profit. The other partner denied that the business could not be carried on at a profit, and moved that, pursuant to the Arbitration Act of 1889, section 4, the proceedings should be stayed, on the ground that the matters in difference should be referred to arbitration under the arbitration clause. It was held "that the question whether the partnership should be dissolved or not was not a question which could be referred to arbitration even under that particular clause." (*Turnell v. Sanderson*, 60 L.J. Ch. 703; 64 L.T. 654.) This shewed that the arbitration clause should be drawn in as wide language as possible, and not be too specific, because the maxim applied, *expressio unius exclusio alterius*.

Then, with regard to the finality of arbitrations. It must be remembered that an award could not be set aside as could a judgment of the Court or the verdict of a jury, on the ground that it was against the weight of evidence. Sub-section 2 of Section 15 of this Act, by which the award of an arbitrator was to be "equivalent to the verdict of a jury," did not give the Court jurisdiction to set it aside as against the weight of evidence, or on the ground that the arbitrator had received improper evidence, or misdirected himself in point of law. (*Darlington Waggon Co. v. Harding* [1891] 1 Q.B. 245).

In another case a defendant agreed to employ the plaintiff as his agent to carry on his business for 15 years.

The agreement contained a clause referring to arbitration "any disputes as to the construction of the agreement or any payment, act, or thing relating to, or arising out of, the agreement." Before the time expired the defendant dismissed the plaintiff from his employment for alleged misconduct, and gave notice to refer the matters in dispute between them to arbitration, but among the matters in dispute he did not specify the dismissal of the plaintiff as agent. Both parties appointed arbitrators, but before anything more was done the plaintiff brought an action against the defendant to restrain him from dismissing him, and from appointing another agent. The defendant moved to stay proceedings in the action, on the ground of the agreement to refer all matters to arbitration. It was held, that the defendant having taken upon himself to dismiss the plaintiff without waiting the decision of the matters in difference by arbitration, the Court ought not to exercise their power of staying proceedings in the action, and that it was too late, after the commencement of the action, for the defendant to withdraw the dismissal of the plaintiff in order that it might be included in the arbitration (*Davis v. Starr*, 41 Ch. D. 242). He therefore urged those who wished to embody in a submission a clause which would refer any dispute arising out of, or incidental to, an agreement, not to attempt to elaborate the matter, but to put it in the simplest possible language. He had never known a case where people had attempted; *a priori*, to define all the matters which might arise, in which they had been able by a true prophetic instinct to identify the particular one which, in fact, cropped up.

Then, with regard to the jurisdiction of the Court. Where a reference was to three arbitrators, one appointed by each of the parties, and a third to be chosen by the

two so appointed, the Court had no power under Section 1 of this Act to order a party who had refused to do so, to appoint an arbitrator. Before Section 5 became law great difficulty occurred through one party stubbornly refusing to move. Then, if the other parties attempted to move without him, they did not know upon what ocean they were voyaging: they did not know whether the proceedings might not be entirely abortive. In order that the award might stand, it was—he did not say absolutely necessary, but—most desirable that the concurrence of the other side, or, where there were three parties, the concurrence of the whole three, should be obtained before the Act. In a case which involved that question, the MASTER OF THE ROLLS said:—"The Court never could have attached a party for "not nominating an arbitrator. It could only attach him if, "after nominating the arbitrator, or after the submission "was made a rule of Court, he attempted to revoke "the authority of the arbitrator whom he had appointed. "The only remedy before this Statute against a party "who would not appoint an arbitrator was, as I have "already said, to sue him for breach of his agree- "ment to do so." Therefore, even under the old practice, anyone who was obstinate enough to refuse to appoint his arbitrator was, at all events, liable in damages for his breach of contract to do so. Of course there was great difficulty in ascertaining what the measure of damages should be, but any tribunal that had to assess such damages would be inclined, he hoped, to give exemplary damages against the man who had led another party on to believe, in forming a contract, that any difficulty arising under it would be referred to arbitration, and had then backed out of it and driven his opponent to a court of law.

Another point was the enforcing of the execution of the award. Very often arbitrations, or so-called arbitrations

which appeared on the face of them to be arbitrations, were in fact valuations, and the Court would not interfere to enforce them. An agreement made between the purchaser of a close of land and the tenant, who was a nurseryman and market-gardener, provided that the tenant should give up possession before the expiration of his lease, and that the amount of compensation to be paid to him (*a*) in respect of such giving up of possession; (*b*) in respect of various plants and shrubs, taken by the purchaser, should be determined by two named arbitrators, one of whom was a seedsman and the other a market-gardener, and, in case of dispute by an umpire to be appointed by the arbitrators. The arbitrators differed, and the amount of compensation was assessed by an umpire appointed by them. It was held that this was a valuation, and not an award, and that the tenant was therefore not entitled to issue execution under the Arbitration Act, 1889. (*In re Hammond and Waterton*, 62 L.T. 808 D.)

Mr. WILLIAM MATHEWS (Fellow) said that one of the great merits of the Arbitration Act of 1889 was that it allowed the arbitrator or umpire to fix the time within which to make his award and to extend the time, if he so chose. It would be a great advantage if the same power had been imported both into the Lands Clauses Act and into the Agricultural Holdings Act. Difficulties depending upon the time at the umpire's disposal very frequently arose under the Lands Clauses Act. In one case he had been appointed umpire, to decide the compensation to be paid by a railway company to a landowner in South Wales. From the time when the matter came into the hands of an umpire, the umpire had three months within which to make his award. With the greatest difficulty he (Mr. MATHEWS) succeeded in obtaining from the two solicitors an engage-

ment to hold the arbitration on a certain day. On his going down to the place of arbitration on the day appointed, counsel for the Company had not arrived. All the witnesses were present, and there was nothing to interfere with the progress of the case except the absence of one of the counsel. He had known cases in which the parties had themselves agreed to extend the time of the umpire or arbitrator, and also cases in which it had been presumed that such an agreement was contrary to law. Which of the two cases was right, perhaps Mr. FREEMAN would be kind enough to tell him. In the case he referred to no award was made within the proper time, and the appointment had to lapse, and, some months after, another set of appointments were made, one of the arbitrators having died in the interval. He had again the same difficulty in making his award. He had only three days left before the termination of the three months, and in the meantime the claimant had raised his claim from £3,000 to £24,000, on the ground that there was only one spot on the estate where coal could be sunk for, and that, in order to sink for it on that spot, the land must be raised 95 feet above the existing *ground* level. That, of course, would have involved calling in a mining engineer as an expert, but, happily, the parties relieved him (Mr. MATHEWS) by coming to an agreement, the Company agreeing to give, and the landowner agreeing to accept, £3,000, the sum that had been mentioned in the first instance.

Great advantage would be gained if the umpire had, under the Lands Clauses Act, a power similar to that which he had under the Arbitration Act, of extending his time without limit.

Under the Agricultural Holdings Act also great difficulties arose. The umpire was bound to make his award within twenty-eight days of the time when the matters in dispute came before him for reference. It might happen

that the umpire got his papers five days before the expiration of the twenty-eight days, and that, in that short time, it was impossible to do justice to the case. In such an event he could not himself extend the time, but was obliged to go to the County Court to get an extension. That, of course was exceedingly troublesome. The County Court might be at considerable distance from the place where the case was heard. In one case in which he was concerned, the Court only sat four times in the year, and therefore it was impossible to apply to that Court for the extension, and a dead-lock ensued. He therefore, as he had said, approved most strongly of that part of the Act which gave the umpire the power of extension of his time, and expressed the hope that similar provisions would be introduced into the Lands Clauses Act and the Agricultural Holdings Act.

Mr. A. PAYNE (Fellow) wished for some information on the bearing of this Act upon the Metropolitan Building Act of 1855. This was a very important subject to surveyors, because under the Building Act one arbitrator was appointed by the building owner, and another by the other side, and the two arbitrators (who must be surveyors) appointed a third arbitrator, and the three, between them, settled any difference that arose. He had been concerned in arbitrations of that sort since the Arbitration Act had come into force, and had not found any change of procedure. He would like to ask Mr. FREEMAN whether this Act in any way affected or overrode any provisions in the Metropolitan Building Act of 1855—whether it in any way altered the duties of the three arbitrators, or would necessitate one arbitrator instead of three, or in any way defined or limited their powers.

Mr. C. K. BEDELLS (Fellow) pointed out that the Paper explained the Arbitration Act as overriding the Building

Societies Act, but that it did not override the Lands Clauses Act. He remembered being concerned in a case with Mr. FREEMAN where an arbitrator was appointed by the Board of Trade, notwithstanding the Arbitration Act. He would like to know whether there were any ready means of ascertaining in what class of arbitration this Act overrode other Acts, and in what arbitrations it did not. He had never heard that the Act of 1889 touched the Metropolitan Building Act at all, but, as it did affect the Building Societies Act, and did not affect the Lands Clauses Act, it would be well if Mr. FREEMAN could point out some ready means of ascertaining which Acts were affected by it and which were not.

Mr. HENRY NORTHCROFT (Fellow) inquired whether the Arbitration Act of 1889 threw any light upon the exact amount of bias that was allowed to an arbitrator. That question might seem a little curious, but it would be in the experience of a good many Members of the Institution that under a certain class of contracts an architect was very frequently appointed arbitrator, although he was employed by the client, and therefore had presumably a certain amount of bias. Up to within the last year he (Mr. NORTHCROFT) had thought that an architect so appointed would probably find his arbitration invalid in consequence of his connection with one of the parties, but in the case of *Jackson v. The Barry Railway Company*, reported in the *Times Law Reports* last November, it was decided that the arbitrator, being an engineer employed by the Company, could decide the point raised in the case, and that his arbitration was valid. It would be interesting to have Mr. FREEMAN'S opinion upon that point.

Mr. A. HARSTON (Fellow) said the point had been much

discussed from time to time as to under what circumstances it was proper for an arbitrator to give evidence before an umpire. The late Mr. POWNALL (of whose powers as an arbitrator the ex-Attorney-General had so very lately in this room spoken so very highly) said in *Watson and Kensington Vestry*, "sometimes arbitrators are called, but most frequently not: they are best out of the way." On the other hand their respected Past-President, Mr. DRIVER, in a letter to *Land* in 1881, wrote:—"When the two arbitrators' time has expired, I consider their judicial powers are gone and they are free to give evidence before the umpire." And there was a ruling by Mr. VIGERS, who was umpire in *Power's* case, which was to the contrary effect. It was sought in that case to put the evidence of an arbitrator before the umpire, and Mr. VIGERS said:—"Many years ago I took the opinion of Mr. JOHN HORATIO LLOYD on the subject, and, in consequence of what he said, I never gave evidence as arbitrator afterwards; I think an arbitrator should not be a witness." Under those circumstances it would be very valuable to have the opinion of Mr. FREEMAN as to whether it was right for an arbitrator to give evidence before an umpire, and, if so, under what circumstances. It appeared to him (Mr. HARSTON) that the probability that an arbitrator will have to give evidence tended to detract from his impartiality, and that his duty was to act judicially as an arbitrator.

With regard to the question of costs, it would be found in the 1889 Act, now under discussion, that the arbitrators or umpire "may direct to, and by whom, and in what manner the costs or any part thereof shall be paid, and may tax or settle the amount of costs to be so paid, or any part thereof" (Sec. 2, 1st Schedule, pgh. i.) Before the passing of the Act it seemed to have been the opinion of writers of

textbooks that the arbitrator or umpire should not mention the amount of his fees or the costs in the award. It now appeared, under the new Act, to be proper to do so, otherwise the costs would be taxed, not necessarily against the arbitrator, but if the award were taken up by a successful party they might be taxed by the unsuccessful party, and a portion of the costs, though legitimately incurred, might in that way be taxed off. For his part, in other voluntary legal business, he always contracted himself out of taxation, for the taxed costs that a surveyor was allowed were often not at all adequate. It would be very disagreeable if, after the costs being paid by one of the parties under the award, that party should be liable to have a portion of them taxed off. There was a case, *Prebble and Robinson*, reported in the *Law Times* in 1892 (Q.B.D.), in which it was held that unless the arbitrator or umpire settled his own costs and mentioned them in the award, they were taxable as against the party. Of course, if, as was seldom the case, but as had sometimes occurred, the wrong party took up the award, he had nobody to tax the costs against, because he had to pay his own costs.

In a small case which was referred to him a little while ago, he put the same construction on the Act and anticipated the legal judgment, and had made his award in the following terms:—"And I award and determine that
 " the said A and the said B shall each bear and pay their
 " own costs of and attending the said arbitration, and I
 " award and determine that the said A do and shall pay the
 " costs of this my award, which amount to, and which I
 " determine to amount to, £26 10s." That was a case in which he, as sole arbitrator, determined the amount of his own costs and stated them in the award, and under the

subsequent decisions, as quoted, and, as he read them, the costs of the award were untaxable, but the other costs of the parties were taxable in the ordinary way, simply because the arbitrator did not tax them, did not settle them, and did not in any way determine them.

Mr. FREEMAN, in reply, thanked the Members very much for the exceedingly kind way in which they had received the short Paper he had prepared and read. The subject might, of course, have been elaborated at very much greater length, but in dealing with it he had, so far as lay in his power, confined his remarks entirely to a few questions of practical interest which would arise from day to day in the experience of many of the Members of the Institution, and he need hardly say that such information as he had endeavoured to embody in his Paper was not so much intended for the benefit of the senior Members (who knew, probably, quite as much about the subject as he did) as for the junior Members who were coming into the profession at a time when it was most important that they should not make mistakes in their earlier arbitrations.

It was a matter of great gratification to him to see his friend Mr. CHATFIELD CLARKE in the character of a City Father, and it was interesting to listen to his kindly references to the 48 good men and true who, up to the present time, had been waiting for arbitrations at two guineas per head per day, but had, he believed, only succeeded, so far, in getting two. So far as he (Mr. FREEMAN) had observed, there did not appear to be any great competition among surveyors for positions upon the City tribunal.

The first question asked by Mr. PILDITCH was whether the provisions of the Arbitration Act would apply to the

Agricultural Holdings Act, there being in the latter Act a reference to the County Court. Under the 23rd section of the Agricultural Holdings Act, the reference to the County Court was not in the way of stating a case upon a legal point, but was a general appeal from the arbitrator's decision in the inquiry, on the ground that he had not taken into consideration or had not properly dealt with the matter referred to him generally under the powers of that Act. It was important to observe that when the judge of the County Court had dealt with the matter he was under absolute obligation to state a case for the Courts upon any legal questions which either of the parties desired to put to him. There was nothing in the Agricultural Holdings Act inconsistent with applying the provisions of the Arbitration Act to the inquiry as it proceeded, and, if either party desired at once to have the direct opinion of the Court upon a pure question of law, the arbitrator would be certainly wise to state a case and give the parties an opportunity of going to the Courts upon it.

Next, Mr. PILDITCH appeared to doubt whether the illustration given at the commencement of paragraph 6 of the Paper would strictly set up an arbitration. He (Mr. FREEMAN) certainly thought it would, because if B were properly advised he would not only raise the question that the price was not right, but that a great deal of the work was not properly done, and that other portions of the work had not been done at all: there would then be distinctly a matter for the arbitrator to decide upon, and it would certainly not be a mere matter of valuation.

It was then asked by Mr. PILDITCH whether an arbitrator would be entitled to make a compromise in giving his award as to damages and matters of that kind. Most distinctly the arbitrator would, and indeed that was exactly what was

done in the case of *Green and Balfour's Arbitration*, the point being that, although they were simply entitled to regard the strict rights under the contract, the arbitrators went behind that and gave an amount of damages as a compromise between the two parties.

With regard to Mr. PILDITCH's observations as to a new terror being added to arbitrations so far as surveyors were concerned, there would be no necessity for the arbitrator to attend the Court at all; he would simply state his case and hand it to the parties, and would hear nothing of it until he received the answer of the Court directing him what to do.

Then, Mr. LYNCH raised the question whether verbal agreements for an arbitration, if confirmed by an award, would not satisfy the statute. He (Mr. FREEMAN) thought certainly not. A submission was defined in the Act itself as "An agreement to refer to arbitration present or future "differences," and that agreement must be in writing. Obviously that referred to something taking place long before the decision of the arbitrator could be given, because it referred not only to differences which had arisen, but to differences which might arise in the future; and it had been held by the Courts that in order to bring an agreement within the four corners of the Act it must be a formal statement in writing that the parties do agree and make submission, and so forth.

With regard to the further point raised by Mr. LYNCH, it was undeniably true that if the costs were the costs of a commercial arbitrator he had a perfect right to sue for them, but, unfortunately, the position of the professional arbitrator was not quite so clear as could be wished. Members of the bar, who occasionally had to act as arbitrators, were not in the position to recover their costs, unless, like all wise

persons, they took care to have them before they gave their award.

A question was raised by Mr. MATHEWS as to the extension of time. No doubt, one of the great benefits which this Act had given, was that which enabled the arbitrator to take a firm position, and say that he would have his award made within a certain time, and it gave him stringent powers to compel parties to act in a reasonable manner. That provision was of immense benefit to litigants, and would do away with the great scandal of useless adjournments and waste of time and money which attended arbitrations in days gone by.

With reference to the point raised by Mr. PAYNE, this Act only applied to the Metropolitan Building Act in certain ways. Under the latter Act there was a curious Court, consisting of three arbitrators. The Arbitration Act was of assistance, in that, if the two arbitrators could not agree quickly upon the appointment of a third arbitrator, either party might ask the Court to appoint the third arbitrator. With regard to the general question whether the Arbitration Act might or might not be read with other Acts, the only answer that could be given was that the Arbitration Act applied generally to all arbitrations under all Acts whatsoever, unless there was some absolute and express direction in those Acts either as to the form of the arbitration or the way in which the costs were to be paid, or matters of that sort. As to arbitrators appointed by the Board of Trade, that case was specially provided for by the Railways Clauses Act as regards railways, and it had been extended with some modifications to cases under the Lands Clauses Act. There it was expressly laid down that, failing agreement, the parties might go to the Board of Trade to appoint the arbitrator, and then the provisions of this Act

would not apply because, if they were enforced, they would be absolutely inconsistent with the special provisions of the Act under which the arbitration was held, and the matter would thus come under the saving clauses of this Act.

He was in a little difficulty in answering the question as to how much bias an arbitrator might be allowed to have. Broadly speaking, the rule might be laid down that it was distinctly unwise, although it was an exceedingly common thing, to appoint some one as arbitrator, on behalf of either of the parties, who had been very closely connected with them previously. He was aware that it was almost the universal rule for railway companies to appoint their valuer or engineer, and for vestries, county councils, and similar bodies to appoint their own officers, but, for himself, he had no doubt that, if the other side objected to such an arbitrator being appointed, the Court would support the objection, as it had done on more than one occasion, and would revoke the appointment.

Similar considerations applied to the question put by Mr. HARSTON as to whether an arbitrator should give evidence. There it was necessary to consider not only the legal right of the arbitrator, but his wise exercise of that right. There was not the least doubt that, when once an arbitrator had allowed his time to run out and the matter had fallen into the hands of the umpire, the arbitrator, if he chose, had an absolute right to give evidence. It could not in any shape or way interfere with the reference, and it could not invalidate the decision arrived at. Where, however, an arbitrator, as was generally the case, had already entered into some negotiations either with the arbitrator on the other side or with the client direct on the other side, it was unwise that he should give evidence in the arbitration before the umpire, because he might be tempted,

in his own mind, to rely upon something that he had heard in confidence: it was exceedingly difficult to disabuse one's mind of all one had heard during negotiations. And, again, being the arbitrator appointed by the parties, his evidence had not as much weight with the umpire as if he were an independent person who had previously had no connection with the case. It was further to be borne in mind that, as a rule, the arbitrator was infinitely more useful to a client, sitting with the umpire and advising him on the facts if the umpire desired any assistance, than he would be in giving evidence, and necessarily subjecting himself to the perils of cross-examination.

With regard to costs, an arbitrator had power, if he chose, to tax the costs of the parties, but any more rash thing for him to attempt to do it was impossible to conceive. Nothing would be more calculated to bring the arbitrator into a relation of hatred and ill-feeling with all his fellow-beings engaged in the case. There was a properly-appointed tribunal to do that work, and the arbitrator should refer it to that tribunal. With regard to his own costs, the arbitrator was clearly, under the recent decision, in the position that if he chose to put his costs in the award nobody could say a word against it, and he could then sue anybody who took up the award and recover his costs with absolute certainty. As a rule, no doubt, the wiser course for the arbitrator to pursue was to keep his award until his costs were paid. But there might be cases in which one could imagine it would be even wiser not to disclose before the award was taken up what the costs of obtaining that award were.

As far as he had been able he had answered all the questions put to him. If the Paper had been in the smallest degree of practical use to Surveyors in saving them the

trouble of looking through authorities upon points which must arise in their everyday practice, he should be exceedingly glad that he had been permitted to contribute it to the "Transactions" of the Institution.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

DILAPIDATION PRACTICE;
PARTICULARLY AS AFFECTED BY SOME
RECENT DECISIONS.

BY P. E. PILDITCH (FELLOW).

*Read at the Ordinary General Meeting of THE SURVEYORS'
INSTITUTION on Monday, March 6th, 1893.*

CHAS. J. SHOPPEE (PRESIDENT) IN THE CHAIR.

It may be remembered that six years ago I had the honour of reading before the Institution a Paper upon the subject of Dilapidation Practice. It is therefore necessary that I should preface my remarks to-night with some explanation of the considerations which have led me to believe that a further ventilation of the subject is likely to be useful. To do this I must briefly remind you of the position it occupies in relation to this Institution and the profession.

Since the report of the Royal Institute of British Architects in 1845, so far as I know no further attempt to deal with the practical difficulties with which it abounds, from the surveyor's point of view as distinguished from that of the lawyer, was made until thirty-five years later, when, in 1881, Mr. CRICKMAY read his Paper before you upon a branch of the subject, namely Ecclesiastical Dilapidations.

The question then rested until 1887, when Mr. T. W. WHEELER, Q.C., and myself read our Papers upon its legal and practical aspects respectively.

Mr. WHEELER contributed to the literature of the subject a legal definition of dilapidations and its different kinds, and a discussion of the question who is liable for dilapidations, and under what circumstances; and the landlord's remedies in case of the tenant's default.

My own Paper dealt with the two main branches of the dilapidation surveyor's practice, namely the interpretation of the tenant's liability under various covenants, and the practice in surveying for, and estimating the cost of, reinstating dilapidations.

At the time those Papers were read it looked as though the passage of a Leasehold Enfranchisement Act would largely reduce the number of dilapidation cases with which we, as surveyors, would in the future have to deal. During the six years that have passed, however, leasehold enfranchisement appears to have lost favour with many of its then supporters, and to have given place to other proposals which it is not within my present province to discuss, but which, even if carried out, will still leave dilapidations an important part of the general practitioner's duties.

It is not, of course, to be pretended that my Paper in 1887 exhausted the subject even as it then stood; since that time, moreover, legal light has been thrown upon some points then obscure, and there have been several new developments, through judicial decisions, and, in one instance, through a new statute.

I have, therefore, no hesitation in offering you a further instalment of the conclusions to which my study and practice of the subject in the past ten years have led me, having regard mainly to all new developments in their relation to the state of the law and practice as it existed in 1887, and I propose to-night to lay them before you under two heads, viz.,—

The tenant's liability, deduced from recent decisions

modifying, confirming, or extending the old practice on the subject; and

The landlord's remedies in case of default by the tenant, having especial reference to that class of points upon which the surveyor's influence is legitimately exercised.

To which I have had the temerity to add some remarks upon the methods by which disputed questions of dilapidation practice are settled.

If any apology is needed from a layman for attempting to deal with a number of legal cases, it must be found in the fact that our daily duty as dilapidation surveyors, agents, and arbitrators compels us to deduce the practical bearings of such cases in the interests of our clients so constantly, and under such circumstances, as to render it impossible to always obtain legal assistance, which I need hardly say we are all glad to avail ourselves of. If I have fallen into any errors through looking at any of them as a mere layman, I look with confidence to some of our legal Associates to make good my deficiencies. I do not think there is much likelihood of complaint being made on the score of my having gone beyond the surveyor's province, as the subject is so full of difficulties that attempts by any person who has had experience of and devoted time to it, whether a lawyer, approaching it from its legal side, or a surveyor viewing it from a practical standpoint, are, judging from my experience, sure of a general welcome.

To deal first with the

TENANT'S LIABILITY.

The measure of damages.—Upon the subject of the tenant's liability for damages several cases have recently been decided which confirm the comparatively modern dictum stated by Mr. WHEELER, on p. 262 of his Paper,

viz., that during the existence of the tenancy it is not, as was held to be the case previous to the two cases of *Mills v. East London Union** and *Williams v. Williams*† quoted by him, the actual cost of doing the repairs necessary to put the premises into repair as they would have been had the tenant fulfilled his covenants; but rather “the amount by which the reversion is depreciated in marketable value by reason of the premises being out of repair.”

In the Appeal Court case of *Whitham v. Kershaw*‡ (1885), the defendants and plaintiffs were freeholders of adjoining allotments of moorland. The plaintiffs had leased their allotment to the defendants for 14 years, under what covenant as to maintenance does not appear from the report, but apparently without any. The defendants removed a quantity of earth from the plaintiffs’ allotment to their own, and an action was brought to recover damages.

A Divisional Court held that the proper measure of damages was the sum it would cost the plaintiffs to replace the 600 cartloads of soil which the defendants had removed from a quarter of an acre of ground, viz., £75, after deducting a discount of £15 in respect of the time that would elapse before the reversion would fall in. There was evidence that the land when in cultivation would be worth from £30 to £35 an acre, and that it would cost from £10 to £15 per acre to bring it into cultivation, so that the value of the quarter of an acre would be something under £10 if the soil were replaced.

The Appeal Court held that the Divisional Judge was in error in his method of arriving at the amount of damages, as he had treated the implied covenant not to commit waste as equivalent to, and producing the same result as a covenant to deliver up the demised premises in the same condition as

* L.R. 8 C.P. 79. † L.R. 9 C.P. 659.

‡ Q.B.D. [1886], vol. 16, p. 613.

when the tenant received them, and that it would be wrong to say that the reversionary value had necessarily been diminished by the cost of restoring the property to its original condition, though, under special circumstances, this utmost limit of damages might be reached, but only as the outside limit. The Court held that the proper way to ascertain the damages would be to employ skilled valuers to say by how much the property had been diminished in value, and on these principles gave damages at £10.

This case, though dealing with a class of property not frequently becoming the subject of dilapidation work, appears to me, from the clearness with which the issue is raised in consequence of the unusual absence of complexity in the facts, to be worthy of careful consideration.

The absence, however, of a covenant to maintain, which would no doubt be practically equivalent to one to leave the premises in the same state as when they were leased, is a factor in the case which must not be lost sight of, though it would appear from other cases cited subsequently that, even though such a covenant existed, the measure of damages on an action taken during the term would not necessarily be the full cost of reinstating the damage done.

Three subsequent cases, viz., *Inderwick v. Leach*, *Morgan v. Hardy*, and *Joyner v. Weeks*, point clearly to the fact that, when action is being taken at the end of the term for damages for not leaving the premises in the covenanted condition, the covenant, if clear and unambiguous, will be translated rigorously, even where the circumstances might seem to point to leniency in favour of the tenant.

*Inderwick v. Leech** (1884), which had not been reported in 1887, was an action for damages for breach of covenant to deliver up demised premises in repair at the end of the tenancy. It was admitted that the premises were then out

* "Prof. Notes," vol. 3, p. 125.

of repair, but the defendants pleaded that on the determination of the tenancy the plaintiff shut them up and reconstructed them, and that he had therefore sustained no more than nominal damages by the breach of the covenant, no damage having been sustained to the reversion.

It was held by a Divisional Court that, the premises being out of repair, the landlord had a vested right to compensation on the contract, which nothing that had since happened was able to affect.

In *Morgan v. Hardy** (1886), which was quoted by Mr. WHEELER in 1887, so far as the legal point involved was concerned, but without reference to some interesting practical illustrations cited by the Judge, the lessee, who held certain premises on a long lease covenanting to "keep "and deliver up the premises in tenantable repair," was sued for damages for not so leaving the premises at the end of the term. Owing to changes in the surrounding property during the tenancy, the character and value of the house had been so altered that it would let for as high a rent if some of the repairs required by the strict reading of the covenant were executed less expensively than was usual to such premises under such a covenant, or even omitted altogether; and the defendant asked that the damages should be limited to the amount which would be expended by a prudent and reasonable man in repairing the premises as they were, so as to render them productive of remuneration.

The Court said that these facts were no ground for limiting the tenant's liability under the covenant, and that the measure of damages was the amount required to put the premises in such repair as was originally contemplated by the covenant, and that the acceptance of the defendant's contention would leave it open to a lessee at the expiration of his term to raise difficult and speculative questions, such

* L.R., Q.B.D., vol. 17 [1886], p. 770.

as whether a balcony which had fallen into decay, or an ornament at the top of a gatepost, might not be altogether omitted. It would be a safer rule that such covenants should be construed as requiring the premises wherever out of repair to be put into repair at the cost of the covenantor.

The Judge went on to say that in several previous cases which had been cited, bearing upon the question of the proper measure of damages during the continuance of the term, there was great difficulty in estimating the damage to the reversion, and judicial opinion had varied considerably as to the proper rule. When, however, the reversion had actually fallen in, there was no reason to doubt that the damages should be "such a sum as will put the premises "into the state of repair in which the tenant was bound to "leave them," but that (a most important point) in those cases where the act of repairing would practically amount to rebuilding, *i.e.*, to substituting a new building for one which was not new when the tenancy commenced, the damages would fall short of the whole expenditure incurred.

This is one of the few recent cases in which the question of liability for substantial repairs has come up. The rule laid down lends force to the custom among many surveyors, though not by any means amongst all, of treating a "maintaining" covenant as possibly subject to limitations under certain circumstances. The ancient elevation of this clause into a fetish to be bowed down to as necessarily covering all kinds and extents of structural damage to the most far-reaching extent, must now clearly be recognised, as I have always considered it, as going too far. At the same time it must be noted that the Judge's remarks do not extend to buildings which were new when the tenancy commenced.

It must be noticed that the decision which so laid down this principle was only that of a Divisional Court, but was

afterwards confirmed by an Appeal Court judgment in the case of *Joyner v. Weeks*. The Divisional Court's decision in this latter case was reversed, but on quite another point, immaterial to our present subject.

In *Joyner v. Weeks** (1891), which was an Appeal case, the defendant held shop premises from the plaintiff for a term of 21 years covenanting to "keep and deliver up the premises in good repair."

Before the expiration of the term, plaintiff granted a lease of the premises to a third party, to commence from the expiration of defendant's term, the reversionary lessee covenanting to execute substantial alterations and repairs.

At the end of defendant's term the reversionary lessee rebuilt a portion of the premises, and repaired the remainder. Defendant denied his liability for repairs on the ground that the plaintiff suffered no loss from his failure to repair, and an action was brought by the plaintiff to recover damages. The defendant paid £45 into Court in respect of the cost of repairing the portion of the premises not rebuilt by the reversionary lessee.

The action was referred to an Official Referee, before whom it was proved that the reinstatement of the dilapidations, if executed, would cost £70, and who gave judgment for the plaintiff for a farthing.

The case then came before a Divisional Court, who held that the finding of the Referee was wrong, and that the person whose breach of contract had caused damage was not the less liable because the damage had been made good, or its effect compensated by an extraneous event of such a kind that if it had acted the other way it would not have increased his liability, but that it did not therefore follow judgment should be for the £70; the correct measure of the amount of damages was "the diminution of the

* L.R., Q.B.D. [1891], vol. 2, 31.

“value of the lessor’s estate by reason of the non-repair,
 “such amount not exceeding the cost of doing the repairs,
 “with some addition for loss of rent during the time they
 “were in progress, or deduction because of the substitution
 “of new work for old.”

Applying these conclusions to the present case, the Court set the judgment of the Official Referee aside, and ordered a new trial on the principles they had laid down.

Upon the case being brought before the Appeal Court, it was held that the principle enunciated by the Divisional Court was difficult to understand and could not be supported, and that the damages for breach of the covenant to leave in repair would not be affected by the transaction between plaintiff and the reversionary lessee, and, as they had been proved at £70, there was judgment for plaintiff for that amount.

The MASTER OF THE ROLLS said:—“The right rule is
 “that when a covenant in a lease to leave the premises in
 “repair at the end of the term is broken, the lessee must pay
 “what the lessor proved to be a reasonable and proper amount
 “for putting the premises into the state of repair in which they
 “ought to have been left. It is not necessary in this case
 “to say that that is an absolute rule applicable under all
 “circumstances, but I confess that I strongly incline to think
 “that it is so. It is a highly convenient rule. It avoids
 “all subtle refinements . . . and the extensive and costly
 “inquiries which they would involve. It appears to me to
 “be a simple and business-like rule, and if I were obliged
 “to decide that point I am very much inclined to think that
 “I should come to the conclusion that it is an absolute rule.”

I do not know that it is necessary for me to dwell upon the principle enforced by these three cases, as I hope it is clear from the readings of the cases I have given. I must, however, point out that all of them refer to the tenant’s

liability at the expiration of the tenancy, so that the new dictum I have referred to remains intact, so far as it applies, viz., to claims for damages made during the existence of a lease.

Since 1887 I have seen one or two cases in practice where the existence of the new dictum has certainly protected the tenants from attempts to blackmail; a consideration, I admit, I had not fully in mind when in 1887 I joined, in replying on the discussion which followed my Paper, in pointing out the difficulties in the way of applying it practically; difficulties which no doubt still exist, but the possibility of solving which is not so remote as to override the advantages I have referred to.

It might, perhaps, be thought that an analogy could be drawn from *Whitham v. Kershaw* and the two previous cases upon which it is based, which would have modified the judgments given in the three cases I have cited, but it appears clearly from them that in the opinion of a majority of the Judges (two eminent Divisional Judges dissenting in the most important of them) such analogy cannot be drawn, and that a tenant who has entered into a contract to perform certain repairs must carry out his contract at the end of the tenancy, or pay the cost of doing so, though his failure to perform it might not have thrown actual, or only a limited measure of loss upon the landlord.

LIABILITY OF LIMITED OWNERS.

A number of cases have recently been decided concerning the liability of tenants for life for dilapidations, but inasmuch as this is more a matter for the lawyer than the surveyor, except when the latter is in the position of agent or manager of large estates, I shall deal with it but briefly.

The general tendency has always been to minimise the liability of persons occupying the position of life tenants or

limited owners of property to a point much below that of an ordinary tenant for years.

In the case of *Coles v. Courtier** (1886), a testator left some short leaseholds to trustees, one of whom was his wife, to be sold after her death. At the testator's death the premises were in a bad state of repair, and the surviving trustee, the widow, declined to do more than keep them in that state.

On an application by the remainderman to compel the widow to repair the premises as required by the leases or to concur in selling the short leaseholds, it was held—

- (1) That the tenant for life need not put the premises in the state of repair required by the leases; and
- (2) That the Court could not interfere with the discretion of the surviving trustee, or order her to sell them.

This case opens up the important question, Who then, under such circumstances, is liable to keep in repair, if the tenant for life in possession is not, and what would happen if the lessor of the short leaseholds in question took proceedings to resume possession because of the breach of covenant to keep in repair? It appears that the remainderman in such a case, where, for instance, the tenant for life was old and without any interest in expending money on the property, would be liable to the loss of his interest and possibly to a claim for dilapidations in respect of property from which he has had little or no return. What, again, is the position of a lessor who does not desire to foreclose, which appears to be his only remedy?

This is a question upon which, no doubt, every surveyor would obtain legal assistance before taking any serious steps, but inasmuch as in the course of his duties he is expected to

* "Prof. Notes," vol. 2, p. 42. L.R., Ch. D., vol. 34, p. 136.

keep his client out of difficult positions, I think we should all feel indebted to any lawyer present who would give us his opinion in general terms during the discussion.

There are two cases where a tenant for life deriving his interest in the land by will has been held to be, in the first case liable, and in the second case not liable, for permissive waste.

The first was a Chancery case, *re Bradbrook, Lock v. Willis** (1887). A testator devised to his wife, for life, two freehold houses, "she keeping the same in good and "tenantable repair," the property to be sold after her death.

After the death of the testator, his widow remained in possession of the property until her death. The property was then in a dilapidated condition, particularly certain greenhouses, &c., formerly used in the business of a fruit grower.

It was proved that the greenhouses were in complete disrepair when the testator purchased; that he never intended to put them into repair, but had thought of having them pulled down. It was therefore contended that the widow was not liable for repairing them.

It was held, however, that the fact that the testator did not himself keep the greenhouses in repair was no excuse for his widow not doing so, having regard to the express direction in the will; and that therefore her estate was liable for the repairs required.

In the second case referred to, *in re Cartwright, Avis v. Newman*† (1889), no express duty to repair having been imposed by the will, it was held that the tenant for life was not liable even for permissive waste.

* "Prof. Notes," vol. 2, p. 50.

† "Prof. Notes," vol. 3, p. 352. L.R., Ch. D., vol. 4, p. 532.

From these cases, apparently, may be deduced the principle that unless the liability is distinctly laid upon the limited owner in the will or other instrument conveying the estate for life, the tenant for life is not liable for permissive waste, but that, when such liability exists, the Courts will translate it literally and without regard to extraneous circumstances.

The next important case involving the liability of tenants for life was the celebrated beechwood timber case of *Dashwood v. Magniac** (1891).

The tenant for life in this case was impeachable for waste, but with power to cut timber for repairs. The greater portion of the woods on the estate consisted of beech; a custom to cut and thin the beechwoods periodically was proved; and it was held that the tenant for life was within her rights in so cutting the beech and turning it into money for her own purposes, even to a very large extent.

It will be noticed at once that this appears to be in contradiction to the recognised rule making tenants for life, whether impeachable or unimpeachable for waste, liable for cutting timber, but what it does is merely to accentuate the exclusion of a certain class of estates, namely, timber estates, that is, "estates which are cultivated merely for the produce of saleable timber and where the timber is cut periodically," the timber being then held to be part of the annual fruits of the land, and not part of the inheritance.

It must be mentioned that this case would not justify tenants for life, even on timber estates, in cutting hedgewood timber, but merely that growing in the woods.

An interesting fact is that a lease taken by a tenant for years from a tenant for life, exempting the lessee from liability for "fair wear and tear and damage by tempest"

* "Prof. Notes," vol. 5, p. 157. T.L.R., C.A., vol. 7, p. 629.

is void, as being made without impeachment for waste. It was so decided in *Davies v. Davies** (1888).

In connection with this part of the subject, I cannot help making reference to the useful Paper in which the questions of waste and repairs are discussed from the Tenant for Life's point of view, by Mr. L. BURD, in Vol. III. of the "Professional Notes," p. 163, which I need not further refer to (inasmuch as I concur generally with Mr. BURD's conclusions) except to point out that his quotation of the dictum of the MASTER OF THE ROLLS, in *Castleman v. Craven*, to the effect that the Court never interferes in cases of permissive waste, must be modified where a distinct liability to keep the premises in a certain state of repair is laid upon the life owner under the will. His conclusion, too, that "the liability of tenants for life, whether with or without impeachment for waste, is practically the same both as to voluntary or permissive waste, both being liable for voluntary but not for permissive waste," must also be taken with this reservation.

The exception whereby under 3 and 4 Wm. IV., ch. 42, sec. 2, the executor of a deceased tenant for life impeachable for waste is liable for voluntary waste committed by the latter within six months of his death, is worthy of especial note by country land agents and surveyors.

It is now time to turn to the consideration of a class of points which comes perhaps even more frequently under the ken of the surveyor.

THE TENANT'S LIABILITY UNDER SPECIFIC COVENANTS.

Tenantable Repair.—Since the Divisional Court case of *Crawford v. Newton*, the principles deducible from which I dealt with at length in Vol. II. of "Professional Notes," and briefly in my Paper of 1887, no further case upon the

* "Prof. Notes," vol. 3, p. 37. L.R., Ch.D., vol. 38, p. 499.

subject was reported until the Appeal Court case of *Proudfoot v. Hart*, in 1890, in which a number of important points were discussed.

It will be remembered that I summarised the result of the judgment in *Crawford v. Newton*, as to the meaning of a covenant to keep in tenantable repair, under eight heads. Three of these are varied by the decision in *Proudfoot v. Hart*, and I therefore quote them :—

(2) That this covenant carries with it a “very slight liability.”

(5) That under such a covenant, the lessee, in the absence of a distinct papering clause, may go the length of leaving the walls entirely denuded of paper; and

(6) That only when “the wood-work becomes destroyed, or the painting which is left on is in such a condition as to require more than ordinary care and expense in renewing it;” is the lessee liable for any painting at all.

The Court of Appeal upheld Mr. Justice CAVE’s judgment, but without expressing an opinion upon its details or stating in general terms its view of what tenantable repairs is.

*Proudfoot v. Hart** has gone through the three stages of a reference to an official referee, and appeals to a Divisional Court, and finally to the Court of Appeal.

The decisions of these tribunals are not identical nor does the Appeal Court judgment reverse, in set terms, that of the Divisional Court. Consequently, despite the evident expenditure of time and care in the preparation of the judgments, the case is not upon first sight perhaps so decisive and useful to us as might have been wished.

A house was let under a written agreement for three years, the tenant agreeing “during the said term to keep

* “Prof. Notes,” vol. 4, pp. 178 & 246. L.R., Q.B.D., vol. 25, p. 42.

“ the said premises in good tenantable repair, and so leave
“ the same at the expiration thereof.”

The Official Referee awarded the plaintiff £52; £47 being in respect of the cost incurred by the plaintiff after the termination of the tenancy, in repairing where the paper had worn out, in repainting where the paint had worn off, in whitewashing and cleaning staircases and ceilings, and in replacing with new a kitchen floor; and £5 in respect of damages caused to the plaintiff through being unable to let his house while the repairs were being executed.

The defendant appealed to a Divisional Court (Mr. Justice CAVE again), who held that the Referee had been wrong in the principles upon which he had made his award, and substantially repeated the judgment in *Crawford v. Newton*, taking practically no notice of the fact that in *Proudfoot v. Hart* the term was one for three years only, whereas in *Crawford v. Newton* it was a lease for 17 years; nor that the present covenant was to keep in “good tenantable repair,” whilst in *Crawford v. Newton* the word “good” was omitted, from which we are to take it, I presume, that in the Judge’s opinion these differences were of no account.

He repeated his opinion that under such a covenant the tenant would rarely or never be liable for papering walls, painting woodwork, and whitening ceilings; that as the floor had to be entirely renewed, the cost of doing so should fall upon the landlord and not the tenant, and that if the tenant was bound to do repairs to the extent of £47, he might be called upon to pay £5, which was the loss sustained by the landlord through having the house empty while it was being repaired, but that, if the cost of doing the repairs were much less, the £5 would be very much diminished or altogether disappear; and finally sent back the case to the Official Referee in order that he might re-try it upon these principles.

In the Court of Appeal, the MASTER OF THE ROLLS in the first instance laid down a series of detailed rules which may be briefly summarised as follows:—The old principle that, when the premises are out of repair at the commencement of the tenancy, the tenant must first put them into tenantable repair, before he can discharge his obligation under the covenant to so keep and leave them, was reaffirmed.

He then dealt with great fulness with the meaning of the term “tenantable repair,” which he held to mean the same as “habitable repair,” and to import such a state of repair that the premises may be used and dwelt in, not only with safety, but with reasonable comfort by the class of persons by whom, and for the sort of purposes for which, they were likely to be occupied, the construction to be put upon this phrase varying greatly according to the age, the class, and the locality of the premises in question. I need not quote his remarks on these points, as they simply confirm long-established principles, but I must quote his general remark that:—

“The house need not be put into the same condition as when the tenant took it, nor need it be put into perfect repair, but only into such a state of repair as renders it reasonably fit for a reasonably-minded tenant of the class who would be likely to take it.”

As to the extent to which repairs are to be done, he said:—

“A tenant is not bound to repaper because the old paper has become worn, or is in a worse condition than at the commencement of the tenancy, but it must not therefore be assumed that under such a covenant a tenant can never be required to repaper. If it has worn right away or peeled off the walls through damp, and the structure is taking damage, and a reasonably-minded tenant would look upon it as a disgrace, then the tenant must put up

“new paper, not necessarily of a similar kind or of equal value, but of such a quality as to satisfy a reasonably-minded tenant of the class who would be likely to take the house.”

As regards painting, the tenant must repaint where the woodwork is bare, or is decaying for the lack of it, and such painting must be done in accordance with the character of the house, but where the paint is only worn or scratched he is not required to repaint; he is not bound to paint as before, but only to such an extent as to satisfy a reasonably-minded tenant.

With regard to whitewashing, a tenant is only bound to do this when the ceilings or walls are in such a state as to debar a reasonably-minded tenant from taking the house. Where an ornamental ceiling has fallen into disrepair a tenant is not bound to regild it, for, in the judge's words, “I should think a reasonable tenant in Grosvenor Square would not require a gilded ceiling at all.”

As regards structural repairs, a tenant under the covenant must keep the house wind and water tight, as by replacing slates and mending broken glass. He is not bound to put down a new floor if the old one can be efficiently patched up, but if, at the commencement or at any time during the tenancy, it is so perfectly rotten that no reasonable man would take the premises, the tenant must put down a new floor.

Then, after apparently, to the poor lay mind, demolishing the judgment and views of Justice CAVE, the learned MASTER OF THE ROLLS says:—“I can see nothing in the case of *Crawford v. Newton* contrary to our opinion; I think that case goes far to support it.” To the extent of upholding the reference back to the Referee he, no doubt, does support Mr. Justice CAVE's judgment, but a careful examination of the Appeal Court judgment shows that in several

respects it does vary the principles laid down in *Crawford v. Newton*.

Before, however, referring to these points, certain difficulties in the judgment must be remarked.

The MASTER OF THE ROLLS said that the house need not be put into the same condition as when the tenant took it, nor into perfect repair, but only into "such a state of repair" "as would render it reasonably fit for the occupation of a" "reasonably-minded tenant of the class who would be likely" "to take it."

He does not say, but it is to be implied, that he means a reasonably-minded *new* tenant; what would satisfy an occupying tenant would not satisfy a new one. It is well known, however, that in all houses beyond the smallest, the most reasonably-minded of new tenants would probably require the walls to be papered and the ceilings to be whitened, and, when above £60 or £70 per annum in value, also the woodwork to be painted, whether in a reasonably good state or not. In fact the learned Judge left out of consideration the fact that a slight amount of tarnish on decorations of this kind—for they are really only decorations in spite of what has been said to the contrary—would certainly deter nine out of ten intending tenants of such houses from taking the house, unless unable to find another, although it might not prevent a tenant already in the premises from remaining there.

The difficulty is not removed when the judge says that "the tenant is not bound to repaper simply because the old" "paper has become worn out," for it is hardly possible to imagine any reasonably-minded new tenant taking premises upon the walls of which the paper had been worn out, unless he had an allowance made in the rent in respect of same, which is a kind of consideration that cannot, of course, be taken into account.

Again, "if the paper were so bad as to be peeling off the walls, it would be a dilapidation." Of course in so extreme a case there could be no doubt, but there is no practical difference between paper being worn out and peeling off the walls, yet a difference is set up between them.

Again, "if the paint is in such a state that the wood-work will decay unless it is repainted, it is obvious that the tenant must repaint," but, more than this, he must paint in such a way as would satisfy a reasonable tenant taking the house."

The latter would, however, presumably cover the former, so that it almost appears that the learned Judge's intention was to minimise the scope of the latter by his reference to the former.

As to whitening ceilings the Judge says:—"One knows it is impossible to keep ceilings in the same condition as when they have just been whitewashed, but if, though the ceilings have become blacker, they are still in such a condition that a reasonable man would not say, 'I will not take this house because of the state of the ceilings,' I think the tenant is not bound under this covenant to whitewash them." The only comment possible upon this is that no new tenant would take a house with ceilings discoloured, even to the slightest extent, unless prepared to do them himself. The admission of such considerations would, however, be merely begging the question.

Lord Justice LOPES agreed in sending the case back to the Official Referee, but for different reasons to those stated by the MASTER OF THE ROLLS.

He says:—"As to papering and painting, generally speaking, the tenant would not be bound to repaper or repaint. Most clearly he is not bound to repaper with similar paper to that which was on the walls when the tenancy began, or to repaint with similar paint, nor to do repairs which

“ are merely decorative. But if at the end of the lease the
 “ paper and paint are in such a condition as to cause
 “ portions of the premises to go into decay, he is bound to
 “ repaper and repaint to such an extent as will satisfy the
 “ terms of the definition which I have stated. Again, if
 “ the paint through lapse of time has worn off, or the paper
 “ has become worn out, so that their condition has become
 “ such as not to satisfy a reasonably-minded tenant of the
 “ class who would be likely to take the house, then he must
 “ repaper and repaint so as to make the premises reasonably
 “ fit, within the definition, for the occupation of such a
 “ tenant, and what I have said with respect to papering and
 “ painting applies also to all the other kinds of repair which
 “ have been mentioned.”

But paper, whitening ceilings, and internal painting are in most cases merely decorative, forming no part of the fabric and only ministering to the æsthetic tastes of its inhabitants; and in the early part of the paragraph we are told that merely decorative repairs need not be done.

I do not think I need be accused of disrespect to two of our most brilliant legal luminaries if I say that most, if not all, of the difficulties raised by the judgment would probably not have occurred had the Judges, in the preparation of their judgments, consulted a professional assessor who would have pointed out a few facts well known to every competent surveyor, and so prevented their being somewhat conflicting and difficult to follow.

It is possible, however, I think, to deduce from the judgments the fact that the three points in the judgment in *Crawford v. Newton* numbered 2, 5, and 6 are clearly modified.

Point 2, which ran thus, “That this covenant carries
 “ with it a very slight liability,” must be read as referring to structural defects only, and that under it the tenant is liable,

as described in points 5 and 6, for defects to such decorative matters as painting, paper, and whitewashing to a greater extent than under *Crawford v. Newton*.

No. 5, which ran thus, "That the lessee, in the absence of a distinct papering clause, may go the length of leaving the walls absolutely denuded of paper," must now read in most cases something like this:—

"The lessee must repaper when the absence of paper is causing a structural defect, or where a reasonably-minded tenant of the class usually taking such property would require the walls papered before he would take the house."

And No. 6, which ran thus, "that only where the wood-work becomes destroyed, or the painting which is left on is in such a condition as to require more than ordinary care and expense in renewing it, is the tenant liable to pay for any painting at all," must read thus:—"The lessee is liable for repainting when the lack of painting is causing a structural defect, or when a reasonably-minded tenant of the class usually taking such premises would require the woodwork painted before he would take the house."

The tenant's liability for structural repairs under such a covenant, which is not equivalent in that respect to a maintaining clause, seems not to have been varied by the case and to remain slight.

Although the case is certainly not perfect at all points, nevertheless, for the first time in dilapidation history we have a determined effort by eminent Judges to define the term "tenantable repair" in the fullest detail, and I think the drift of the Appeal Court judgments is that we are to recognise as a leading factor in such cases the probable views of a hypothetical "reasonably-minded tenant" who will for the future keep company with our old friend the "hypothetical tenant" in rating cases.

It seems, however, from the language of some of the Judges before whom the case came, that the "reasonably-minded tenant" they had in mind was one of such lofty reasonableness of mind that we are not likely to often meet him in the flesh. Upon the whole, however, I think we shall be able to invest his dry bones with flesh and blood. I hope the Judges who are responsible for his existence will recognise their creature when we present him to them fully developed into his proper proportions in future cases. I think I may promise that we will do our best with him.

DRAINAGE.

Liability for repairs, &c.—Four cases have recently been decided upon the question as to whether the landlord or the tenant is liable to the cost of repairs required to drains and sanitary arrangements during the existence of a tenancy. In each of these cases the terms of letting and the repairing and other covenants have varied, so that the matter needs some examination in detail, though not, you will be pleased to hear, at any great length.

Under the Public Health Act, 1875; the Metropolitan Management Acts, 1855 and 1862, and the Public Health (London) Act, 1891, the liability to make good structural defects to drainage is cast upon the lessor, apart from contract upon the subject.

In *The Home and Colonial Stores v. Todd** (1891), the tenancy of a London house was one for 22 years at a rent of £40 per annum, "payable free and clear from all deductions "for main drainage and sewer rates, improvement rates, "taxes, &c." The Local Authority themselves reconstructed the drains of the house which were defective, and recovered the cost from the tenant. The Court held that, the premises being let at a rack-rent, and the work done being for the

* "Prof. Notes," vol. 4, p. 478. L.T., Ch. D., vol. 63, N.S., p. 829.

permanent improvement of the property, the landlord was liable to pay the cost, under Sec. 73 of the Metropolis Management Act, 1855, and Sec. 96 of the Amending Act of 1862, and that there was nothing in the covenant to make the tenant liable to do so.

The next case is *Lyon v. Greenhow** (1892). The property, which was situated outside the Metropolitan area, was let on lease for nine years. About 18 months before the expiration of the lease, the Local Authority executed the rearrangement of the drainage system into the sewer, the property having been previously drained into a cesspool, and the landlord paid the cost of same under threat of legal proceedings.

The covenant ran as follows:—"The tenant will pay
" all rates, taxes, and assessments . . . which . . . shall
" be imposed upon the said premises, . . . and will make,
" uphold, support, cleanse, repair, and keep in repair all
" . . . sewers, drains, cesspools, necessities, privies, vaults,
" . . . belonging to the said premises."

The landlord brought an action to recover the cost, £68, from the tenant, but the Court held that under Sections 22 or 34 of the Public Health Act, 1875, the landlord was liable for the same as being in receipt of the rack-rent, and that the covenant I have quoted did not make the tenant liable for structural alterations to the drains. In this case an attempt was made to read Sec. 4 (the definition Clause) of the Public Health Act as excluding an owner who employed an agent to collect his rent from the meaning of the term "owner" as being "the person . . . receiving
" the rack-rent of the premises, whether on his own account
" or as agent," which was, of course, overruled.

The third case is that of *Gebhardt v. Saunders*,† one of the

* "Prof. Notes," vol. 5, p. 387. T.L.R., Q.B.D., vol. 8, p. 457.

† "Prof. Notes," vol. 5, p. 486. L.R. [1892] 2 Q.B., p. 452.

first cases under the new Public Health (London) Act, 1891. The premises were let from year to year; the drains became stopped; and the Local Authority served a notice upon the tenant to abate the nuisance, which he did, when it was found that it was caused by a structural defect. The Judge of the City of London Court held that the tenant could not recover the cost he had been put to from the landlord, because the Local Authority had not served a notice upon the owner under Section 4, Sub-section 3, which provides for the service of a notice to abate a nuisance arising from a structural defect upon the owner; but the Divisional Court overruled this decision, and held that the landlord was liable under Section 11, Sub-section 1, of the Act.

The fourth case is that of *in re Bettingham-Melhado v. Woodcock* (1892), in which certain structural alterations had to be made to the sanitary arrangements of premises in Westminster, held by a solicitor upon lease which contained a covenant by the tenant "to pay all " rates, taxes, assessments, and outgoings whatsoever," and to "keep the said premises in a tenantable state of repair, " . . . ordinary wear and tear alone excepted." The Judge held that the tenant, being liable for all "outgoings" was clearly liable to undertake the repairs and alterations in question, and that his liability might, in consequence of the existence of that word in the covenant, seriously increase his general liability for repairs, so as even to cover repairs necessitated by ordinary wear and tear which would not be covered by the repairing covenant.

This is a most serious point for lessees and surveyors advising as to the practical bearing of the repairing covenants in an agreement.

I have been obliged, owing to considerations of space and time, to make my reference to these cases much briefer than their importance would warrant, but I may say that there

are a great many important points as to the relative liabilities of landlords and tenants, and as to the construction of the Metropolis Management Acts, and the Public Health Acts 1875 and 1891, which render a careful perusal of them well worth the time so expended.

AMELIORATING WASTE.

I cannot help here referring to a recent case from which it appears that Mr. WHEELER's contention on p. 253 of his Paper,* to the effect that the tenant's liability for ameliorating waste was probably modified by the Agricultural Holdings Act, 1883, has to some extent received judicial sanction. It is that of *Meux v. Cobley*,† where the Judge stated that the Act goes "a long way towards getting rid of some of the "old common law doctrines of waste," and that to obtain an injunction against a defendant on the ground of "waste" the plaintiff must prove that what the defendant is doing is prejudicial to the inheritance; if it improves it in value, it is not waste.

The tenant of an arable and pasture farm near London covenanted to "yield up the premises at the end of the term, "together with all fixtures and 'improvements' which "might during the term be fixed to or erected on the demised "premises, except such fixtures as should be erected by the "lessee, and which he should be at liberty to remove in "case the lessor should object to purchase the same by "valuation"; and that he would "in all respects cultivate "and manage the farm and every part thereof, in a good, "proper, and husbandlike manner, according to the best "rules of husbandry . . ." The lessee converted part of the property into a market garden, erecting glasshouses for hot-house produce for the London market. The lessor applied

* "Trans.," vol. 19.

† "Prof. Notes," vol. 5, p. 365. L.R., Ch. D., vol. 2, p. 253.

for an injunction to restrain the lessee from so doing, alleging that it was a breach of covenant and was waste, causing loss to, or imposing an additional burden on, the plaintiff.

It was proved that other farms in the neighbourhood had been converted into market gardens, that being the most profitable mode of cultivation.

It was held that the conversion into a market garden was not a breach of the covenant, and, as injury had not been thereby caused to the inheritance, was not actionable waste.

The Judge, too, thought that the powers of removing "improvements" put up by the lessee under the Agricultural Holdings Act would affect the question, presumably by estopping the landlord from preventing the erection by the tenant of the very things a statute gave him power under certain circumstances to claim compensation for. I fail, however, to see the strict accuracy of the analogy drawn, as compensation may only be so claimed when the landlord has consented to the "improvements" being made, which was exactly what the landlord refused to do in this case.

The circumstances of the case appear to prevent its being considered as binding in other than agricultural cases, though we may probably expect to see analogies drawn from it in respect to cases of ordinary ameliorating waste in due course.

THE LANDLORD'S LIABILITY TO REPAIR.

A case* has been tried since the passage of the Working Classes Dwellings Act, 1885, which made the landlord impliedly liable in the case of dwellings let to members of the working classes that they were in a habitable state of repair at the commencement of the tenancy, but as I

* "Prof. Notes," vol. 3, p. 323. T.L.R., Q.B.D., vol. 5, p. 640.

summarised it in the "Professional Notes," vol. 3, p. 323, I need not further remark upon it.

VENDOR'S LIABILITY.

A case has lately been decided in the Court of Appeal bearing upon the question of the vendor's liability to repairs, viz., *Clarke v. Ramaz** (1891), which I quote as it lays down very clearly the rule which would probably be found to govern the great majority of such cases.

By a contract dated August 2nd, 1889, the defendant agreed to sell, and the plaintiff to buy, five plots of building land. The purchase was to be completed on August 12th, but the conveyance was not signed until October 21st. On taking possession, the plaintiff found that some 400 cart-loads of soil had been removed since August 2nd, for the purpose of making a road. He then brought this action against the defendant, *who had not known of the removal of the earth*, for not keeping the property in the same state as when the contract was signed. The jury found for plaintiff £75.

The Appeal Court held that the defendant was liable.

The LORD CHIEF JUSTICE said that there had clearly been a breach of the duties which the vendor owed to the purchaser, for he was undoubtedly bound to take reasonable care to preserve the property. The fact that the injury to the property took place after the day fixed for completion did not affect the matter, because the purchaser was not to have possession until the purchase was completed. The argument that, even if the plaintiff had a remedy against the defendant in respect of the deterioration of the property, he waived his right to it when he executed the conveyance, would not hold in this case, where neither party was aware of the deterioration.

* "Prof. Notes," vol. 5, p. 156. T.L.R., C.A., vol. 7, p. 626.

It is time now to turn to the second part of the subject, the

LANDLORD'S REMEDIES,

which largely resolves itself into a consideration of the interpretations which have been placed upon the practice under the sections of the Conveyancing Act of 1881, and of the Amending Act of 1892, which modifies the law on a point of great importance to surveyors.

It is hardly necessary for me to remind a meeting of surveyors that the Act of 1881 enacted, in Section 14, Sub-section 1,* that "a right of re-entry . . . for a breach
" of any covenant . . . shall not be enforceable . . . until
" the lessor serves on the lessee a notice specifying the
" particular breach complained of, and, if the breach is
" capable of remedy, requiring the lessee to remedy the
" breach, *and*, in any case, requiring the lessee to make
" compensation in money for the breach, and the lessee fails
" within a reasonable time thereafter to remedy the breach,
" if it is capable of remedy, and to make reasonable com-
" pensation in money to the satisfaction of the lessor for the
" breach."

In *The Skinners' Company v. Knight*,† tried before a Divisional Court (1890), and subsequently affirmed by the Court of Appeal (1891),‡ two very interesting points were decided. The landlords took action to recover possession of premises on breach of the covenant to repair. KNIGHT was assignee of the lease under which the lessee covenanted to keep the premises at all times in good repair, with a clause for re-entry on breach of covenant. The plaintiffs alleged that on the 5th of June, 1889, the premises were out of repair whereby their reversion was injured,

* "Prof. Notes," vol. 5, p. 152.

† "Prof. Notes," vol. 4, p. 458. L.T., Q.B.D., vol. 63, N.S., p. 698.

‡ "Prof. Notes," vol. 5, p. 152. L.T., C.A., vol. 65, N.S., p. 240.

and on that day served defendants with a notice under the Act of 1881 specifying the breach complained of, and requiring defendants to remedy same, and to make compensation in money for the breach, and including in the claim a sum of £4 14s. 6d. for surveyor's fees for examination of the premises, and solicitor's charge for preparing notice.

On 15th January, 1890, plaintiffs commenced an action of ejectment. The questions to be settled were, plaintiffs' right to recover possession, and to the £4 14s. 6d., surveyor's and solicitor's fees, as compensation for damages arising from the breach. The jury found that the premises were out of repair on 5th June, 1889, but were unable to agree as to whether they were on 15th January, 1890, the date of the commencement of the action for ejectment, and were discharged.

In giving an order for a new trial, the Judge said the Conveyancing Act did not abridge the rights of the tenant, but extended them, and that the landlord must prove that the premises were out of repair at *the time of issuing the writ*—a decision very important to surveyors, as it clearly necessitates a further survey being made at the time legal proceedings are being taken.

As regards the tenant's liability for the surveyor's fee under such circumstances, the Judge held that he was not so liable previous to the passing of the Conveyancing Act, 1881, and that the Act did not alter his liability in that respect, and the fee did not therefore form part of the "reasonable compensation for the breach" mentioned in the statute, and could not be recovered.

I must at once point out, however, that this judgment, so far as cases under the Conveyancing Act are concerned, has been overruled under certain circumstances by the new Conveyancing Act of 1892, by Sec. 2, Sub-sec. 1 of which it

is enacted that a lessor "shall be entitled to recover from a
 " lessee all reasonable expenses properly incurred by him in
 " the employment of a solicitor and surveyor or valuer, or
 " otherwise in reference to any breach occasioning forfeiture
 " which, at the request of the lessee, is waived by the lessor
 " in writing, or from which the lessee is relieved under the
 " Conveyancing Act," which latter point was probably suggested by *Skinner's Company v. Knight*. In the case of waiver, the costs have, I believe, in the absence of agreement been hitherto thrown upon the lessee.

The question has been raised whether, by the effect of the words "shall be entitled" the discretion of the Court, under Sec. 14 of the 1881 Act is overridden. The effect of *The Skinners' Company v. Knight* appears to be that the Court had no jurisdiction to award the costs to which the Act now "entitles" the lessor. It has been suggested that the new Act, while it gives the Court the right to award the expenses mentioned, will still allow the Court to withhold them when it thinks fit, except as to expenses of a written waiver expressly prepared for the purpose. It must also be pointed out that the new Act does not appear to cover cases in which the lessor is successful in his action and the tenant is ejected, in which it appears he cannot recover these costs.

Perhaps some legal Associate present will give us his more valuable opinion on these points, as the question is one that is very likely to be often put to surveyors by their clients, at a stage of the matter prior to the engagement of counsel or, perhaps, even solicitor.

Another case has just been decided upon a very similar point bearing upon Section 14, viz., *Lock v. Pearce** (1892), the question in which was whether the landlord must have both served the notice and demanded compensation to obtain possession of premises which had fallen into disrepair.

* 11 Ch. D. 323.

Looking at the matter from a practical point of view it seems as though the only circumstances under which compensation could be payable as well as the defect be made good would be where property has so far gone out of repair as to be beyond placing in the same condition as if the repairs had been done as they were needed, but the wording of the section has always given rise to difficulties. In the case in question the landlord gave the notice requiring the tenant to remedy the breach committed in not repairing, and also required him to pay two guineas—surveyor's fees and solicitor's charges.

The defendant did not do the work, and the plaintiff obtained an order for possession in the County Court.

The tenant then appealed to the Court of Chancery to restrain the plaintiff from enforcing the judgment, on the ground that, according to the statute, the landlord's notice should have required the tenant to have made compensation in money for the breach, and that, inasmuch as the only compensation demanded was the two guineas for the costs, which it had been decided in *The Skinners' Company v. Knight* could not be recovered under the section, the landlord's notice was informal.

The Court held that the notice was good, and that it would have been good even if no compensation at all had been asked for.

Two previous cases, *The North London Land Company v. Jacques* and *Jacques v. Harrison*, were unfortunately so poorly reported that it would be unwise to rely on them as to matters of detail, but in one of them the following words were used by the MASTER OF THE ROLLS :—" It is evident that " many cases may occur when, where the breach has been " perfectly made good and no expense or loss incurred, there " may be nothing for which to make compensation, and we " are therefore of opinion that, notwithstanding the general " terms of the notice required by the statute, the lessee is

“ bound to make compensation, not absolutely in every case, “ but only where there is something to compensate.”

It will be noticed, however, that these last words do not quite bear out the decision of the Judge in *Lock v. Pearce*, so that even now it will be advisable to make a claim for compensation, though perhaps the amount need not be mentioned in the notice to repair.

Another case involving a question of time was that of *Rogers v. Rice** (1892), heard in a Divisional Court, in which it was decided that, when a landlord has obtained judgment in an action for recovery of possession, and has re-entered, it is too late for the tenant to apply for relief under Section 14 of the Act of 1881.

The LORD CHIEF JUSTICE thought it quite clear that Sub-section 2 of Section 14 did not apply. A proper notice under Sub-section 1 was given by the lessor, who then proceeded to enforce the forfeiture of the lease. The action was not hurried on, and the judgment was not snapped, but the lessee took no steps to prevent the forfeiture. The action proceeded to execution as regards recovery of possession, and on the words of the Act alone his lordship said it was perfectly clear that it was too late then to apply for relief against the forfeiture.

A case which decided a point interesting to land-agency surveyors, though one which is not likely in the nature of things to occur frequently, is that of *Coatsworth v. Johnson*† (1886).

This case raised the question of the right of a landlord to enter and take possession of the demised premises when the tenant has neglected to cultivate the land in accordance with his contract. The action was brought by the plaintiff, the tenant of a farm holding under an agreement by a lease for 21 years, against his landlord for a trespass in illegally

* “Prof. Notes,” vol. 5, p. 392. T.L.R., C.A., vol. 8, p. 511.

† “Prof. Notes,” vol. 1, p. 113, Feb. 22, 1886. T.L.R., C.A., vol. 2, p. 351.

entering the farm and turning the plaintiff out of possession. The defendant justified his action on the ground that the plaintiff had committed a breach of covenant, and that he had terminated the tenancy by due notice. In the agreement for the lease, the defendant agreed to let the farm for 21 years. The draft contained a covenant by the tenant to "use and cultivate the farm and lands in a good "husbandlike manner . . ." with a power of re-entry by the landlord on breach of covenant. The trespass was not denied, but the jury found that the plaintiff had been guilty of a breach of the covenant as to cultivating the land, and judgment was given for the defendant.

A similar case, but where the matter was fought upon the construction of Section 14, was that of *Swain v. Ayres and Luck*,* finally decided in the Court of Appeal (1888).

The point at issue is an important one for surveyors. Briefly stated and stripped of extraneous elements, the question raised was whether the word "lease" in the section could be considered to cover an "agreement for a lease" where a tenant held premises upon that document only, and the actual lease had not been granted.

The plaintiff, the grantor of the agreement, took action to obtain possession of the premises in consequence of lack of repair, but had not first given the notice required by the Conveyancing Act, contending that such was only necessary where an actual lease was in existence.

The defendant held that the agreement for a lease placed him in the same position as though the lease had actually been granted, and therefore that he was entitled to the notice required by the Act, in default of which, he contended, he had not forfeited the property.

Both the Divisional Court and the Court of Appeal decided in favour of the plaintiff's contention, on the ground that the wording of the Act must be strictly construed as

* "Prof. Notes," vol. 2, p. 276; vol. 3, p. 53, June 12, 1888.

referring to an actual lease only, and that the defendant, having been guilty of a breach of the agreement in letting the premises go out of repair, could not enforce specific performance of the agreement and the granting of the lease.

A case on a somewhat similar point was *Burt and another v. Gray and others** (1891), before a Divisional Court, by which it was decided that Section 14 of the Conveyancing Act does not enable an under-lessee of the demised premises to obtain relief against forfeiture for breach of a covenant to repair contained in the head lease.

This was an action of ejectment to recover premises on breach of covenant to repair. The defendant, who was under-lessee of a part of the property comprised in the lease, asked for relief against the forfeiture under the Act of 1881, by which, "where a lessor is proceeding, by action or otherwise, to enforce such a right of re-entry or forfeiture . . . the Court may grant or refuse . . . relief as it thinks fit."

The Judge held that the words of the Conveyancing Act do not affect the liability of an under-lessee for breach of covenant to repair, which remains as before the Act; and second, that the use of the indefinite article in the Act, the words being "a lessee includes an original or derivative under-lessee" was not, as was contended, intended to include all under-lessees, and therefore a sub-lessee of a part of the demised property; but only a sub-lessee of an entire property being proceeded against by his lessor.

A very important point to surveyors having to do with dilapidation cases, either *ex parte* or as arbitrators, arises where a tenant under covenant to leave premises in repair fails to do so, as to what circumstances justify an amount being allowed for loss of rent or inability to use the premises during the time the owner is subsequently doing the necessary repairs to relet them.

* L.R. [1891] 2, p. 98.

It has, in my experience, always been held by surveyors that when actual damage could be proved, *i.e.*, where it could be shewn that a tenant was actually ready to go into occupation, had the premises been put in repair (which rarely occurs, but which recently did occur in a dilapidation case in which I was arbitrator) the landlord was entitled to an allowance in this respect, though it has always been my opinion that even in such a clear case the character of the covenants of the lease should be an important factor in deciding the amount to be so allowed, inasmuch as it is by no means every repairing covenant the fulfilment of which would leave the premises in a state to satisfy a reasonable new tenant, much less an exacting one, as most new residential tenants usually are, and consequently the landlord would probably have to spend a certain amount of time in executing the necessary additional repairs.

There have been three recent cases on the point: The first is that of *Proudfoot v. Hart*, before referred to, in which you will remember it was decided in the Divisional Court, whose judgment on this point was not overruled by the Court of Appeal, that the tenant who had not repaired during his tenancy was liable for a certain sum, varying according to the quantum of the waste he was found liable to make good, in respect of the loss to the landlord through being unable to let the premises during that period.

Nothing in the report helps us as to whether evidence was tendered as to actual damage sustained, but I have learnt on inquiry of the plaintiff's solicitors, who have courteously afforded me what assistance they could, that no such evidence was tendered, and that the Judge gave the damages on this point merely because the tenant had not fulfilled his contract, and without requiring proof of actual loss.

In *Birch v. Clifford** (1891), the premises were leased for

* "Prof. Notes," vol. 5, p. 183, Nov. 28, 1891. T., Nov. 30, 1891.

21 years, expiring in 1890. The tenant was liable to deliver up the premises on the determination of the tenancy in good repair. The premises not being so delivered up in repair, the landlord brought an action for £535 damages, including an additional sum for the time the premises would be useless owing to the repairs not having been done. At the trial before the Divisional Court the defendants did not make good their defence, and the question of the amount of damages was referred to an arbitrator, who fixed them at £425 5s., but including nothing for the loss of rent or for the non-user of the premises by the plaintiff during the repairs. On the matter coming before the Court again, its judgment was to the effect that the plaintiff was entitled to the compensation which he claimed for loss of rent, the full amount of the rent for the time taken in doing the repairs, but the parties having claimed £75 compensation, and agreed to take £50, the judgment was for £50 for loss of rent, and the costs of the action and reference.

I have been unable to ascertain whether in this case evidence was adduced as to actual loss of rent.

I have now finished my examination of the present position of the legal basis upon which our work as dilapidation surveyors must rest, if it is to be stable and free from empiricism, and it now remains only for me to give expression to some general conclusions to which my practice and study of the subject has led me.

In my earlier Paper I recommended a specification describing the conditions of the premises at the time they were let being appended to instruments of letting, for the purpose of assisting in arriving at fair solutions of disputed questions, but I must admit that, in the numbers of cases I have since had, I have not found that such a course has been followed to any appreciable extent, though I have, when permitted by clients, lived up to my theory in some cases.

I still consider that such a course would render many

difficult dilapidation cases easier of solution, but my experience as a dilapidation arbitrator and surveyor has taught me that there are two even more important directions in which improvement could be effected.

In the first place, one too rarely comes across really conclusive, logical repairing covenants.

It is no doubt impossible for repairing covenants to be so drawn as to exclude all possibilities of difference, but my experience has been that in many covenants it is absolutely impossible for the surveyor or arbitrator to know whether he is giving effect to the intentions of the parties or their representatives when the lease was granted, as the several parts of the covenant conflict in vital points, and what is laid down and made clear in one part of the covenant is sometimes expressly provided against or obscured in another.

I am not now referring to agreements in respect of small premises for short terms in which, as they are often prepared by laymen, one is prepared to find a certain degree of ambiguity, but to leases of valuable properties for long terms. It is a frequent source of difficulty to find, for example, a mild covenant to repair with, in the surrendering clause, a covenant to deliver up in good repair, applicable, but evidently not so meant, to fixtures only, and not to the main subject of the demise, from which serious consequences may arise; or a clause containing covenants to paint, paper, etc., at specified periods, with power to the tenant to determine at intermediate periods, in which case the legal liability is, it is true, clear, and must be followed, though often against the original intentions of one or both of the parties, and the tenant is free from any specific liability, except under the general maintaining clauses, if any. These are illustrations of cases which would cause injustice, perchance, to the landlord, but there are plenty in which the element of uncertainty may prejudicially affect the tenant, as where a ponderous "maintaining" clause with attendant specific

clauses is made to act the steam hammer cracking the nut by being applied to some cottage let upon a short tenancy.

Again, one sometimes comes across stringent general and specific covenants with a "fair wear and tear" clause, evidently interpolated as a compromise, without regard to the difficulty of harmonising in practice such opposing phrases.

Nothing is more disturbing to the arbitrator who wishes to be equitable between the parties than to be placed on the horns of such a dilemma; if he decides on one hypothesis, he must needs ignore the other, and the easy method of striking a mean between the two lines of translation is abhorrent to his soul. Compromise is often legitimate in matters of detail, but should, I take it, never be so in matters of principle, where it can by any means be avoided.

I have not referred to this subject for the mere purpose of unburdening my soul of some of the personal difficulties I have laboured over, or of joining brother surveyors in a chorus of complaint. I do not myself know why covenants should not be so framed as to be reasonably easy of interpretation at the end of the lease. I have received great assistance at all points of my career from the great junior branch of the legal profession, and all must recognise its usefulness to its clients and the community; but I cannot help thinking that in adopting ancient covenants out of musty old deeds, or precedent books 40 or 50 years old, without regard to their applicability to the circumstances of the present day, or varying in the course of negotiation carefully-drawn covenants, without advice from a competent surveyor as to the bearing and probable effect of what they are doing, they are defeating their own ends.

I have prepared for my own use a series of repairing covenants embracing every shade of responsibility, from the most complete to the most trifling, which I have at times supplied to solicitors for whose clients I have acted; and I make it a rule that should it be necessary to modify a

proposed covenant in the course of negotiation, to do so by, wherever possible, adopting the next suitable one in the list, and not by dovetailing into a general covenant of a certain degree of severity a rider applicable only to another kind of covenant, and only likely to lead to confusion if used apart from its natural context. This is the most usual cause of incongruity, I feel sure. It is, I admit, difficult when pressed, in negotiating the terms of a letting, whichever side one is acting on, to avoid consenting to compromises; indeed, it is far from my desire to advocate a severe and unbending attitude in the face of conflicting views and interests; but attempts to blend and marry inharmonious details which were never meant for each other's society can only result in dissension as the result of their ill-assorted union.

The other point is one which has regard to the methods in vogue for settling dilapidation disputes, and the Tribunals before which they are so settled.

It is probable that the majority of disputed dilapidation cases are settled by surveyors, either between themselves or before a fellow surveyor as umpire, or we should have many more legal cases to consider than those referred to in this Paper; but of the numbers of cases which go before the Courts a part only are referred to referees, and some of these are sent to legal referees.

With the large class of cases settled wholly, so far as the facts are concerned, by surveyors, I have, of course, nothing to say, except that it is becoming yearly more necessary for us to understand the true bearing of the law, on which, as a foundation, our practice should be built if justice is to be done.

But what I wish to suggest is that in cases which are settled before the higher tribunals, whose judgments have, or should have, a binding force over our entire practice, inasmuch as they constitute the only standard to which

reference can be made, and by means of which some measure of certainty and uniformity of practice can be obtained, and without which our practice would be built upon the sand, and every surveyor's views in each particular case be as good as another's, so leading direct to chaos,—a practical dilapidations assessor should be employed to advise the Judges upon points of fact and technique. I cannot help thinking that, if this course were once tried, the Judges themselves would never allow it to fall into desuetude; their judgments would lose nothing from a legal aspect, and would be even more valuable and easy to follow and interpret than at present, and we should never have otherwise profound judgments diminished in value through absence of technical knowledge.

It would, I fear, be too much to expect that in this or similar subjects we could have technical tribunals like that set up under the County Council of 1890, consisting at present of two eminent Members of this Institution and the Royal Institution of British Architects, and a Member of the County Council, the working of which has been so successful, to my own knowledge as well as that of many other surveyors. But, I think, if it could be managed, great advantage would result if a certain number of surveyors were to be nominated as suitable to act as dilapidation assessors, so that from this number the Judges might, upon such occasions as I have suggested, select one to act as technical assessor, not necessarily at the hearing of the case, though that would be advisable, but in the preparation of the judgment so far as it dealt, as so many judgments do and must, with detail and technique.

I have spent the time necessary for the preparation of this Paper in the hope that it may be of service to some of my brother Members of the Institution who practise in this branch of our common work, and I trust that this end will, in some slight degree, be attained.

Mr. A. VERNON (Fellow), in moving a vote of thanks to Mr. PILDITCH for his Paper, said he was sure that the Members present would agree with him in feeling confident that the closing words of the Paper would be realised, and that this contribution to the "Transactions" would be of service to many of them. They were very much indebted to the author for such an excellent record of recent decisions affecting the legal position of the question of dilapidations, and, although the writer had apologised for viewing the legal decisions much as a barrister might have done, surveyors would find no fault with his temerity in thus entering on the domain of law. The Papers read before the Institution might, he thought, be broadly divided into two classes. First, there were Papers of great temporary interest, and affording much matter for debate, such as the Currency Papers, which had excited so much attention recently. These, of course, had a very important use; but there were also the less contentious, but not less useful, Papers which, when they found their way into the "Transactions," rendered the publications of the Institution so very valuable for reference. The latter was the class to which Mr. PILDITCH's Paper belonged.

In the Paper, special attention was directed to four points—(1) houses and buildings, (2) drains, (3) timber, and (4) farm lands and market gardens, and upon each of those points very interesting notes and information had been given, and some able comments made, with regard to the decisions of the Courts. There were many points which admitted of discussion, and which, he hoped, would receive due attention, but he would now deal with only three. First of all, he would take the question of timber. A celebrated case, in which some of the gentlemen present had taken a prominent part—satisfactorily or unsatisfactorily, to themselves—was that of *Dashwood v. Magniac*, which had, for the moment, left the law decided, but not, he thought, in a very satisfactory state. The decision appeared to him to be

entirely opposed to the wording of the will. The will, under which the lady had occupied her house for nearly 30 years, specified that she was only to have timber for the purpose of repairs. Mr. Justice CHITTY held that the customs of the district as to thinning beechwoods overrode such provisions of the will, or that they did not apply to it. Two out of the three judges of the Court of Appeal agreed with that view and upheld the application to personal uses of about £70,000 by the lady who was tenant for life.

Members of the Institution would agree that, where there was any question for the Courts to decide as between income and capital, a competent Surveyor should be called in to report to the Court how much in the case of beechwoods might fairly be considered income from thinning, which amount alone ought to be taken by the tenant for life, the other portion being treated as capital.

That, however, was not the principle applied in the *Dashwood* case. Another curious point in that case was that the word "crop" was used continually. He had always understood that to "crop" meant to remove everything just as one removed a crop of wheat or of underwood where it was cut close down to the ground, but beechwood was never cut as a crop: it was always thinned. That was, he thought, one of those instances in which learned judges, who, no doubt, perfectly understood the law, appeared to get confused upon practical points.

With reference to the case of *Davies v. Davies* (1888), referred to in the Paper, there were thousands of cases throughout England in which, if the decision in that case were literally followed, tenants who held by lease under tenants for life were liable to have those leases declared void. The condition of things that might arise under such a decision was something too terrible for contemplation. The judges held in that case, that where a lease is taken by a tenant for years from a tenant for life under the Settled Lands Act, and the lease

gave exemption from liability for fair wear and tear—which was formerly by no means uncommon—the lease was void because it was made without impeachment of waste.

A surveyor seldom approached dilapidation questions without astonishment that these things could not be made clear and plain, and disputes to a large extent be foreseen and avoided. He gathered from the Paper that the writer's view (with which he entirely concurred) was that, first of all, a good surveyor should prepare particulars of the premises before they were entered upon, and that a good surveyor should advise a good lawyer as to the proper covenants, and then that a good surveyor should have the settling of the practical difficulties. Without blowing their own trumpets, the Members of the Institution might easily contend that, if a good, competent surveyor was employed in these three respects, dilapidations would not present the tangled mass of dissatisfaction, annoyance, and cost which they now too frequently presented.

He felt sure that the volumes of the "Transactions" would be very much enriched by this excellent reference Paper, and he trusted that this would not be by any means the last occasion on which Mr. PILDITCH would add to them contributions of equal value.

Mr. C. HERBERT BEDELLS (Fellow), in seconding the vote of thanks, said he heartily concurred with the previous speaker as to the value of the Paper for purposes of reference, but he thought it would be still more useful if the exact references were given to the various cases quoted, where these were reported in "Professional Notes."

With regard to the case of *Joyner v. Weekes*, he would call attention to a passage from the judgment of Mr. Justice WRIGHT, in the Divisional Court (as reported on page 47 of Volume 5 of the "Professional Notes"), bearing upon the question of the measure of damages during the term.

Mr. Justice WRIGHT thus summed up the question :—" It seems to be now settled that in such cases the jury on the one hand are not bound to give the cost of repairing, and on the other hand are not limited to nominal damages, even where the length of term unexpired is so great that no real damage can be proved, or the accumulated proceeds of investment of a nominal sum would at the end of the term provide more than a sufficient fund." This, if correct, seemed rather to qualify Mr. PILDITCH's conclusion (page 2, 39th line, of Paper), that the measure of damage during the term was the amount by which the reversion was depreciated.

As to the measure of damage at the *end* of the term, it was satisfactory that the law had been plainly laid down by the MASTER OF THE ROLLS, in *Joyner v. Weekes* (Appeal), because, after all, it was cases of dilapidation at the end of the term which most frequently engaged their attention. In that case the Court below entered most elaborately into a discussion of an amount, as the measure of damage, viz., the damage to the reversion, not exceeding the cost of the actual repairs required. As the Court of Appeal pointed out, that was adding another difficulty to the matter, because two other amounts had to be settled before the third, the amount required, could be arrived at. It was highly convenient to have it laid down by the Court of Appeal, as nearly, if not quite, an absolute rule, that the measure of damage at the end of the term was the cost of repairs necessary to put the premises in the state contemplated by the covenants of the lease.

He agreed with Mr. PILDITCH that it was very difficult to reconcile the two cases of *Crawford v. Newton* and *Proudfoot v. Hart*. The latter case seemed to raise what it had, of late years, been the custom to consider as a low-level liability to what was relatively a high-level liability. It was quite clear that the judges contemplated a NEW tenant, for the words "to take" occurred repeatedly in the

judgment of the Court of Appeal. It was to be observed in passing that in *Proudfoot v. Hart* the words of the covenant were "good tenantable repair," whereas in *Crawford v. Newton* they were, he believed, simply "tenantable repair." This was, perhaps, some explanation of the difference between the judgments in those two cases, though, as Mr. PILDITCH had pointed out, the judges laid no stress on the existence of the word "good" in the more recent case. It would save misconception, however, if Mr. PILDITCH's reference to the "determined effort" of the judges, in *Proudfoot v. Hart*, pointed out that their effort was to define "good tenantable repair." It was not verbally accurate as it stood in the Paper.

There was a small verbal correction also to be made in Mr. PILDITCH's quotation from the judgment of the MASTER OF THE ROLLS in *Proudfoot v. Hart*, in which he used the illustration of an ornamental ceiling. In the report, the passage ran:—"Where an ornamental ceiling has fallen "into disrepair, a tenant is not bound to *regild* it," not, as quoted by Mr. PILDITCH, "repair it." There was, in such a case, an important distinction between *regild* and *repair*; because if there was a gilded ceiling, although a reasonably-minded tenant might not require the ceiling to be regilded, he might reasonably require it to be whitewashed and generally repaired.

With regard to the question of drainage, and the liabilities under the Public Health (London) Act, 1891, he regretted that Mr. PILDITCH had not found time to deal with that subject more fully, because it was, perhaps, for London surveyors the question of the day. They constantly, in their daily practice, had to deal with cases in which difficulties arose as to the determination of the respective liabilities of lessor and lessee under this Public Health Act; and so important was this matter that, if it could not be adequately dealt with during this discussion, a very

profitable evening might be spent in considering it by itself on a future occasion. The great need was for a well-reported typical case. The cases quoted by Mr. PILDITCH did not seem to cover the ground. There was one case not referred to in the Paper—the case of *Duncan v. Spencer*, which was reported in the *Estates Gazette* (May 28th, 1892), but, unfortunately, the report was meagre. It was a case in which the lessor recovered damages from his lessee in respect of work that he had done under notice from the sanitary authority where (as the report said) “the ordinary “repairing covenants” were in the lease. Out of an expenditure of £53 the landlord recovered £43; the balance he failed to recover on the ground that it was for work consisting of manholes, &c., which, according to the judge (Mr. Justice CAVE), could not be claimed in respect of old drains.

Regarding the question raised in the case of *Swain v. Ayres*, viz., whether a tenant under an agreement for lease could claim relief under Section 14 of the Conveyancing Act, against forfeiture, it occurred to him to inquire whether that decision was not affected by Section 5 of the new Conveyancing Act of 1892. That case was decided in 1888, before the new Act, and he had seen it stated that Section 5 varied the decision.

At the conclusion of his Paper Mr. PILDITCH referred to the difficulty which all surveyors must have experienced with regard to differing portions of a covenant. He (Mr. BEDELLS) had a recent case where there was a strong repairing covenant, followed by a very weak surrendering covenant. His client was a solicitor, and, after considering the matter, he (the client) said that the liability, he was afraid, must be taken on the stronger covenant; that the repairing covenant, which was the strong one, was in full force up to the very last day of the term, and that therefore the weak surrendering covenant did not prevail. As the

client was himself the lessee and the person who had to pay the damages, his opinion was the more valuable as being against himself.

The remarks in the Paper respecting surveyors advising solicitors in the matter of covenants would be very generally concurred in. It was his experience that solicitors very cordially welcomed any suggestion from surveyors on points within their practice.

THE PRESIDENT, adverting to the case of *Birch v. Clifford*, said that he was the arbitrator in that case. The matter was referred to him by order of the High Court of Justice, Queen's Bench Division, and it was specially requested by the plaintiff's and the defendant's surveyors that he should submit to the Court the question of compensation for the time occupied in doing the work. He had to report to the Court first, as to the value of the dilapidations, and next as to the question of such compensation.

The judge ruled that £50 should be paid therefor, in addition to the arbitrator's report of £425 5s. for dilapidations.

MR. SPENCER CHADWICK (Fellow) said that the subject dealt with in the Paper was of such importance that he thought he should express the feeling of the Meeting in moving the adjournment of the discussion, as there were very many points which required careful attention. A great deal was said on the cases quoted as to what should or should not be done by a reasonably-minded tenant. He thought it would in all such cases be more satisfactory if a reference were made to a reasonably-minded surveyor.

The vote of thanks having been put and carried unanimously, the further discussion was then adjourned to the next Meeting.

AT
THE ORDINARY GENERAL MEETING

Held on Monday, March 20th, 1893.

THOMAS CHATFEILD CLARKE (VICE-PRESIDENT)
IN THE CHAIR.

The adjourned discussion on the Paper by Mr. P. E. PILDITCH (Fellow), entitled "Dilapidation Practice, particularly as affected by some recent decisions," was, in the absence of Mr. SPENCER CHADWICK, who had moved the adjournment, resumed by

Mr. C. K. BEDELLS (Fellow), who said that a very important question was raised by Mr. VERNON as to the decisions which had been given regarding the limited liability of tenants for life, and the effect of this on their underlessees, as mentioned on page 317, and he hoped that some of the legal Associates would, during the discussion, throw a little more light on the subject. In his valuable Paper, Mr. PILDITCH had done well to call attention to the importance of some of the decisions recently given under the Public Health (London) Act, 1891, as affecting somewhat the question of dilapidations. The effect of that Act, so far as he had been able to ascertain, was to throw on owners and lessors a great deal of the responsibility which had been hitherto borne by the lessees. He thought that the effect of the recent decisions had not yet been fully realised by surveyors; and it appeared to him to be very necessary to see that, in all future leases, where it was intended the lessee should undertake all responsibility as to drainage, &c., during his term, there should be a clause in which the lessee should covenant to pay all "outgoings." He fully agreed with the author of the

Paper that this matter should be the subject of full discussion, if practicable, during the present Session.

A recent decision, somewhat conflicting with former ones, was given in *Smith v. Robert*, in the Westminster County Court, where the landlord recovered from his lessee, who had a 17 years' lease, £16 and costs, but leave was granted to appeal. The notice in this case was served upon the lessor. The lessor did the work, and recovered from the lessee.

In two recent cases the decisions bore hardly on the owner. In one case the tenant, by his action or default, brought in the sanitary inspector, and then sought to cast all responsibility on the owner or lessor. Notice in that case was served upon the lessee. Then in another case of a tenant from year to year notice was not served on the landlord or lessor; the work was done, and the landlord was made to pay. The awkwardness of this new method of procedure might well be illustrated by an instance in his own practice. On an estate with which he was connected, a notice (in the form with which everyone was familiar) was served upon one of the tenants, who put himself in communication with the local authority and proceeded to do the work, expecting, of course, to recover the cost from the landlord. No notice was given until after the commencement of the work. The premises were very old, and were intended to be let for rebuilding. If it had not been discovered in time a completely new drain would have been put in, and, there being no basement to the existing premises (although in rebuilding there would certainly be a basement), the work which was about to be done, without the landlord's knowledge at all, and which would have been charged entirely to the landlord, would have been utterly useless to him. But it was discovered in time to give notice to the Board of the intention

to rebuild with a basement, and that it would be necessary to put the drain at such a depth as would be serviceable to the proposed new building.

The question was raised by Mr. PILDITCH of repairs to make good dilapidations not done within the term, and whether it was fair under those circumstances to claim for rent, and a case was mentioned in which the PRESIDENT of the Institution was advising the Judge, and £50 was given as damages for the neglect to do the repairs within the term. He believed that it had been the common practice in extreme cases, and where there had been unreasonable neglect or delay in coming to a settlement, to make a claim for rent for loss so arising. It had been held by many members of the profession with whom he had come in contact as arbitrators, that it was very advantageous to the lessor to have the cost of the repairs paid to him, and to be able himself to do the more important things which practically affected the structure rather than to have the repairs carried out more literally under the covenants of the lease. Of course, in some exceptional cases, that method would not be advisable, but in ordinary cases that had been the practice.

It was suggested by Mr. PILDITCH, and had, indeed, been before urged in discussions in that room, that it was advisable to have a schedule of defects when advising an intending lessee. It greatly simplified matters if the lessee could be quite sure that such defects would be admitted in settling up the dilapidations at the end of his term.

He agreed that it was important to see that lessees did not bind themselves by impracticable covenants. Different typical cases required very different covenants in the leases, and he believed it had been the practice, when lessees were well advised, to have the covenants greatly modified. The Chairman (Mr. CHATFIELD CLARKE) and himself were concerned in a case recently in which there was a modified form of

covenant. The building was a very old one, and the lessee had, no doubt, been advised to insist upon the covenant to support, uphold, and maintain being omitted, and in consequence, instead of the very large claim, amounting to thousands of pounds, being supported, a settlement was effected at one-third of the amount, mainly because the covenant had been modified to meet the exigencies of the case.

He thought that surveyors were better arbitrators in dilapidation cases than lawyers or judges, for they need not spend valuable time in discussing whether worn and torn paper could damage walls, or whether the lack of internal painting would cause the woodwork to decay. No surveyor as arbitrator would spend much time on these things, because he would know practically what the effect would be.

Penal rents were rather difficult things to deal with in settling dilapidations. He was concerned in a case a short time ago in which there were very heavy penal rents for breaking up pasture or selling manure or hay. To enforce these penal rents would have been to give an altogether unreasonable sum; but the parties, in view of this, entered into a supplemental agreement after the first submission to leave the matter to him (Mr. BEDELLS) to estimate the actual damage to the property as a basis of settlement instead of the penal rents. It was often difficult for an arbitrator to exercise his discretion except by getting the parties to agree to let him take a common sense view of the subject rather than an arbitrary one.

Two hard cases were mentioned by Mr. PILDITCH, one being the case of *Inderwick v. Leech* (page 279), which was an action for damages for breach of covenant to deliver up the premises in repair. The landlord, at the end of the term, shut them up, and partially, if not entirely, rebuilt them. Of course the strict law of the case was that this did not affect the question, and that the lessor was entitled to the actual dilapidations.

Then there was the case of *Morgan v. Hardy*, where the general character of the neighbourhood had so changed that a very different kind of repair would have been practically as good as that contemplated by the lease. In both cases the literal covenants were not affected, and ought to be literally complied with. It might be said that in such case no more was required than the tenant bargained for in the first instance; but, on the other hand, it might be said that he was probably not getting the rents he expected to get, and there was some loss in that respect.

While it was essential that surveyors and arbitrators should be well informed of the exact legal position, so as to avoid pitfalls and having their awards upset owing to taking an illegal view, there was, he thought, in most cases, room for the exercise of a moderating and sound discretion.

Mr. ARNOLD STATHAM (Associate) said he was bound to say that the Paper was unique in its character, being, as it was, a scholarly review of a purely legal topic by one who was not a lawyer. From the masterly way in which he had dealt with this question of law, it was quite evident that the author had by nature a legal bent of mind. He almost regretted that Mr. PILDITCH was not a member of the legal profession, although his being so would have added one more to the long line of formidable antagonists with whom one had to struggle for success at the bar. It was perhaps somewhat foolhardy to attempt to grapple with questions which had outwitted the powers of research of the author of this elaborate Paper; but, as he had invited opinion upon it, he (Mr. STATHAM) would venture to try and answer one or two of the questions. But when a lawyer stated his opinion it was, he thought, never very interesting, and if he made any attempt to be interesting he failed to state the law. Now, what he understood the author of the

Paper to invite was something which, so far as the authorities went, might be relied on, and he had therefore ventured to make a few notes which he was afraid would, for the reason he had given, be somewhat dry and technical.

With reference to the case of *Coles v. Courtier*, mentioned at page 285 of the Paper, he thought it well to draw attention to the facts stated in the judgment. Lord Justice CORTON said :—" The testator's estate consisted principally of " leaseholds, many of which were held on short terms. " Most of them were, at the death of the testator, in a very " bad state of repair. The widow had kept them in the " same state as they were in at the testator's death, but " declined to put them in such a state of repair as to satisfy " the covenants in the leases. With respect to that " question it was admitted that the words of the will were " such that it could not be contended that there was a trust " for immediate conversion; but it was said that if the " widow was to have the right to possess the leaseholds " *in specie* during her lifetime she was bound to spend her " money in putting them into sufficient repair to satisfy the " covenants of the leases." Now, Lord Justice CORTON thought there was no such obligation on her. She was not bound to the landlord under the covenants; the trustees were bound, and it was the duty of the trustees—not the widow—to repair the houses (that is, in accordance with the covenants in the leases) out of the *corpus* of the estate. There is no rule of law that the tenant for life is bound to do those repairs out of the rents and profits. The widow was to enjoy the leaseholds *in specie*, but she was under no covenants to repair, and there was nothing in the will to shew that the testator intended her only to have the net rents after making provisions for the liabilities that arose in the testator's lifetime. The Court of Appeal held that it could not be fairly left to the widow to make good the

deficiencies of the testator. The appellants relied on *In re Fowler* (16 Ch. D., page 723). But that was a very different case, and the question which arose there did not arise in the case under consideration. In the case mentioned by Mr. PILDITCH it was not a question whether the trustees were bound to keep up the houses, but whether the tenant for life was bound. In the case of *In re Fowler* the question was whether the trustees ought, out of rents and profits in their hands, to provide for the repairs, and Lord Justice FRY decided that, as under the terms of the will they were to receive the rents and to preserve the property for the remaindermen, it was their duty to apply the rents in their hands towards the repairs. No question was decided there between the tenant for life and the remaindermen. If it had been a decision between tenant for life and remaindermen, Lord Justice CORTON said he should have had some difficulty in following it; but he considered it was no authority in the present case of *Coles v. Courtier*. The answer, therefore, to the question put by the author of the Paper was this: If the remainderman suffers in consequence of the age and infirmity of the tenant for life, who has no interest in expending money on the property, it was the fault not of the law but of the preference displayed by the testator for securing as good an income as possible to the tenant for life irrespective of the remainderman; and, under those circumstances, the remainderman had, as GEORGE ELIOT said, the choice of either accepting a loaf that was rolled to him in the dust or of taking no bread at all, and must not blame the law but the testator.

Now, the next question was, what was the position of the lessor who did not desire to re-enter? The answer was, that the lessor must exercise his discretion whether he will risk having to call upon the remainderman to execute the repairs, or whether he will get rid of the tenant altogether.

If the rent he was receiving was such as he was not likely easily to get again, then he should advise him to keep things going and nurse his claim for dilapidations.

Then, as to the question put at page 305 of the Paper, his answer was this: The lessor having the *jus disponendi* may annex whatever conditions he pleases to his grant provided they be not illegal or repugnant to the grant itself, and upon the breach of any of those conditions he may, subject to the special statutory provisions against forfeiture referred to in the Paper, avoid the lease. (See *Baylis v. Le Gros*, 4 C.B., N.S., 537.) The question, therefore, as to whether if a lessor were successful in getting rid of the lessee by action of ejectment he could still recover, as compensation, the costs he had been put to, might depend upon the stipulations of the lease, in which he, as lessor, having the *jus disponendi*, could of course insert such a provision. If, however, there were no express reservation in the lease it would not follow that the remedies of the lessor were not cumulative, for under the ordinary proviso for re-entry he can terminate the lease for breach of covenant to repair, and in the same breath demand compensation sufficient to put himself *in statu quo ante*. If, however, there was no express reservation in the lease of the right to compensation for the surveyor's and solicitor's charges, he thought the right of the lessor was limited to those which he had before the Act in question. Under the law before the Act, where there was a proviso in a lease that "upon breach of any of the covenants therein upon the part of the lessee the lessor may re-enter upon the premises, and the same have again as if the said lease had never been made," the lease had been held to be void from and after re-entry by the lessor, and the proviso did not deprive the lessor of bringing an action for covenant for rent which accrued previously; and the same principle was held

to apply equally to a covenant for repairs. (See *Hartshorn v. Watson*, 4 Bing N.C. 178, 6th Dowl. Practice Cases 404, and *Selby v. Browne*, A. & E., and 7 Q.B. 620.)

In *Hartshorn v. Watson* Chief Justice TINDALL held that the proper construction of this condition was that from the time of re-entry the party should hold the premises as if the indenture had not been made; that is, that both should be free, from that time, of the obligation of landlord and tenant. It could scarcely be held in an action of that description (for rent on an instrument under seal) that the lessee or assignee might plead not payment or performance of the covenant, but that the lessor entered for non-payment. If the re-entry should take place not only in consequence of non-payment of rent, but in consequence of non-repair, the lessor might lose not only the charges of repairing, but his rent too. That was a construction which could not be supported, and he thought that the only proper construction was that which Chief Justice TINDALL suggested. Where, therefore, the forfeiture was insisted upon, the landlord's remedies were apparently cumulative under the old law, and he thought they were cumulative under the new Act. But inasmuch as the special right to compensation in connection with the reasonable costs and expenses properly incurred by the lessor in the employment of a solicitor or valuer, or otherwise by Section 2, Sub-section 1, of the Conveyancing Act, 1892, depended for its existence upon the statute, and not upon the common law, that right stands or falls with the conditions and limitations imposed by the statute which gave birth to it, and the statute appeared only to refer to cases in which the right of re-entry or forfeiture had been, at the request of the lessee, waived by the lessor by writing under his hand, or where he had been relieved either under the provisions of the Conveyancing Act, 1881, or the Conveyancing Act, 1892.

He therefore had come, after very careful consideration of the history of the law, and the analogies to be drawn from the older authorities, to the conclusion that the author of this Paper had correctly appreciated the operation of that section when he said the new Act did not appear to cover cases in which the lessor was successful in his action and the tenant was ejected, in which it appeared he could not recover those costs.

It had been held in *Skinners' Co. v. Knight* (2 Q.B. 542; 60 L.J., Q.B. 629; 65 L.T. 240; 40 W.R.; 57 C.A.), affirming Mr. Justice CHARLES, that the compensation which a lessee was liable to pay under Sub-section 1 of Section 14 of the Act of 1881 did not include the expenses of the lessor in consulting a solicitor and surveyor in respect of the notice before action, or a forfeiture required by that sub-section. It seemed, however, to have escaped the attention of Mr. PILDITCH that in a more recent case, *Bridge v. Quick* (61 L.J., Q.B. 375), it was held that *Skinners' Co. v. Knight* was not applicable to Sub-section 2 of that section, so as to exclude the discretionary jurisdiction of the Court to award such expenses in granting relief against forfeiture under Sub-section 2. The lessor by the new Act becomes entitled to these expenses in connection with proceedings under each of the sub-sections. The lessor also becomes quite newly entitled to such expenses in case of a breach being nullified by a waiver.

Skinners' Co. v. Knight was decided in 1891, and Mr. Baron POLLOCK in February 1892, in the case of *Bridge v. Quick*, felt himself fettered by it, as it was a decision of the Court of Appeal, and he accordingly, sitting in chambers, stayed an action for re-entry upon breach of covenant to repair under Section 14, Sub-section 2, of the Conveyancing Act, 1881, but felt that by the decision of *Skinners' Co. v. Knight* he was precluded from exercising any discretion

he might otherwise have had to grant the plaintiff costs as between solicitor and client, and costs of surveys and schedules of dilapidations under Sub-section 2 of Section 14. An order had been made giving the lessee time to put certain premises into repair; that time was on several occasions extended; the lessee did not execute them, and consequently a peremptory order was made that the repairs should be executed in one month. It finally transpired that the repairs had not been completed and Mr. Baron POLLOCK appointed Mr. SHOPPEE to make a survey of the houses and report upon the requisite repairs. The Court directed Mr. SHOPPEE's award to be taken up, and on a subsequent application by the lessee for relief, Mr. SHOPPEE attended and said that the repairs were not complete, and that £100 more would have to be expended. A final order was subsequently made staying the action upon the completion of the repairs, but, as he had already stated, Mr. Baron POLLOCK felt that his discretion was fettered, and that he could not award the plaintiff costs as between solicitor and client, and the fees paid by him to Mr. SHOPPEE, the surveyor. He had paid Mr. SHOPPEE thirty guineas for his fee, but on a party and party taxation he would only be allowed ten guineas in respect of this payment, whereas in a solicitor and client taxation he would be allowed the whole amount.

In delivering judgment, Mr. Justice CAVE said that Mr. Justice VAUGHAN WILLIAMS and himself had discussed the matter with Mr. Baron POLLOCK, and they had come to the conclusion that the decision in *Skinnners' Company v. Knight* did not fetter his discretion, and the case must therefore go back to Mr. Baron POLLOCK to be dealt with.

That case was of such moment to the Members of the Institution that he felt quite sure Mr. SHOPPEE would forgive his having gone into details as to his position in the

matter, as the case and Mr. SHOPPEE's fee together constituted a very important landmark in the law on that subject, and no doubt led to the legislation with regard to it, with the result, as it appeared, that a lessor might pay an eminent surveyor a respectable fee without the risk of its being taxed down, as was the case before the Act.

In the case of *Creswell v. Davidson* (56 L.T. 811) Mr. Justice KAY held that Section 14 of the Conveyancing Act, 1880, afforded a *locus penitentiæ*—nothing more. In spite of the contract between the parties, the legislature—in a manner quite familiar to the legislature—interposed so as to counteract the exceeding folly displayed by lessees in the mode in which they have been accustomed to allow themselves to contract. The legislature interfered and said, although the lessee has contracted to allow the lessor a right of re-entry or forfeiture for a breach of any covenant or condition in the lease, yet the lessor must give the lessee an opportunity of repairing and making good any breach of covenant. But it did not actually take away any right of re-entry or forfeiture which the lessor may have. That provision of the statute had not therefore altered the law, as laid down in *Darlington v. Hamilton*, in the least degree. It had only postponed the right of the lessor to re-enter until after he has served on the lessee a notice specifying the particular breach complained of. The doctrine established in *Darlington v. Hamilton* was that in the case of an underlease of one of two houses comprised in an original lease common to both, and containing covenants by the lessee to repair, rebuild, &c., the underlessee of the one house might be liable for any breach of covenant in respect of the other house through the covenants in the original lease affecting both houses as a whole.

He thought it desirable to invite attention to the case of *Mitchison v. Thomson* (1 Cababe and Ellis 72). That was

an action to recover possession of forty-six small tenements, on the ground of a breach of covenant to keep in repair, the lease containing a proviso for re-entry in such a case. The property was very dilapidated, and evidence was given that it would cost £600 or £700 to put it in proper repair. The judgment was important as showing that, although relief under the Conveyancing Act, 1881, had not been claimed in the pleadings, the Court would be disposed to grant such relief; and the judgment of Lord COLERIDGE afforded a useful precedent in such a case. He gave judgment for the plaintiffs, but ordered the same not to be enforced if the defendants should (1) give security, within a fortnight, to the satisfaction of the Master, that they would put the premises in repair; or (2) within four months have the premises put in repair to the satisfaction of a person to be agreed upon by the parties, or, in case of difference, to be named by his lordship. The defendants were to pay all arrears of rent and the costs of the action, with liberty to apply.

Speaking generally of the Paper, he thought he might, without flattery, characterise it as a most capable critique of legislation on the subject, and if it erred at all it erred on the safe side by not attempting to be dogmatic upon vexed questions. The author had been exploring debateable territory which was so fertile in conflicting decisions, and in which, as everybody knew, it was so difficult to define the scientific frontier or line of demarcation between decided cases and recent statutory invasion; and he had hit upon the very happy method of inviting criticisms rather than hazarding an opinion on points where uncertainty prevailed.

Mr. WM. WOODWARD (Fellow) said that, although the subject of dilapidations had been discussed before in that Hall, Mr. PILDITCH had thrown new light upon it by dealing

with some important recent decisions, and had enabled his audience to make his Paper additionally useful by comparing notes among men in practice. The subject was a very difficult one, and there could be very little hope of ever arriving at any general consensus of opinion or of laying down any formula as to the exact method of dealing with dilapidations. But the great use of such a Paper was to enable surveyors to deal reasonably with covenants, and to endeavour to effect a reconciliation between their consciences and those covenants. He was quite aware that the duty of a surveyor, on whichever side he was employed, was, to the best of his ability, to construe the covenants; and, although that was his strict duty, he could, in dealing with the subject of dilapidations, do so reasonably, and temper justice with mercy.

He proposed to deal shortly with two points: first, the effect of the age and condition of premises upon covenants in leases; and, secondly, the effect of the Public Health Act of 1891 upon duties and liabilities of lessees. The first point was, to his mind, a very important one. Take the case of a house that had lived for 60 years, originally indifferently built, with an unfortunate disposition on the part of the walls to get out of the vertical, with an inclination on the part of the floors to get out of the horizontal, and a tendency on the part of the roof to assume that wavy appearance observable in the paving of St. Mark's at Venice. The lessee, at the end of that 60 years, took a lease for 21 years, containing the covenant with which all were so familiar as to supporting, upholding, maintaining, sustaining, and so on. At the end of that 21 years the landlord sent in a schedule of dilapidations, and, although he knew perfectly well that when the term of 21 years commenced those premises were in the condition he (Mr. WOODWARD) had endeavoured to describe, the landlord called upon the unfortunate lessee to

put the walls vertical, to make the floors horizontal, and to practically rebuild the roof—in a word, to give him a new house for an old one. That appeared to him to be a most unreasonable overstraining of the covenant of the lease. He believed it was the law years ago, whether the premises were in the condition indicated or not, to assume that they were perfect at the commencement of the term; but now, fortunately, the judges were taking a reasonable view of such matters, allowing a lessee to give evidence as to the condition of the premises at the commencement of the term, and instead of the landlord being permitted to secure a new house at the end of the 21 years, after the 60, he was only able to do that which he should never have been able to do more than, which was to secure that the lessee should reasonably comply with the covenants of the lease, and should not have permitted the premises to get into a worse state than they were before; but should prevent injury from the penetration of wet, or other causes over which he had control. The whole tendency of surveyors now was to deal reasonably with the covenants, although the words of the lease were, of course, their guide.

With regard to the Public Health Act of 1891, all knew the enormous power which the legislature had conferred upon local authorities under that Act. He was very sorry to have to disagree with Mr. BEDELLS, whom he understood to say that it was desirable that the covenants of leases should now throw the obligation of compliance with the terms of the Public Health Act upon the lessees. In his (Mr. WOODWARD'S) opinion it should be thrown upon the lessors. It appeared to him most unreasonable that a tenant should be called upon to reconstruct the drainage, to carry out modern sanitation, and to improve the value of the premises, when perhaps in three years' time he would have to hand over the premises to the landlord, who would

get all the benefit. With regard to brick drains, for example, he had always considered that the tenant ought not to be called upon to do more than repair the brick drains, and should not be compelled to put in pipe drains under the Public Health Act. The liability ought to be thrown upon the lessor, who got, practically, the whole of the benefit of the work of reconstruction which the tenant was called upon to perform.

MR. WHEELER, Q.C. (Associate), said he used no mere figure of speech when he assured the Members present that he was very reluctant to trespass upon their time and attention. His sole reason for doing so was that he felt to some extent responsible for the flood of learning recently thrown upon the subject under discussion. It was now some six or seven years since he wrote a Paper on dilapidations, which was supplemented by another by Mr. PILDITCH, who approached the subject from what he termed the surveyor's point of view, and now Mr. PILDITCH had again been good enough to read a Paper, on which he congratulated both the Institution and the author. At the same time he was bound to say that if the Members of the Institution were to seek to reconcile the very numerous decisions to which their attention had been called, and to base their practice upon them, they would open up an immense vista of future prosperity before the Members of the legal profession. He had referred to the debate which took place six or seven years ago on this subject, and in which some very eminent Members of the Institution took part, including The President, Mr. SHOPPEE, a Past President, Mr. DRIVER, Mr. CHATFIELD CLARKE, Mr. HOWARD MARTIN, Mr. BEDELLS, and Mr. COLLINS. He remembered an observation of Mr. COLLINS' to the effect that he did not see much use in these discussions, as they seemed rather on the whole to confuse, and he was

disposed to think that Mr. COLLINS was tolerably near the mark, as there was nothing in the then existing decisions, nor in the recent ones, to prevent the surveyor (in the happy language of Mr. R. C. DRIVER) applying "the law, the practice, and his own common sense," in solving the problem of dilapidation.

It was suggested at the end of the Paper that it would be well if the judges were aided by practical surveyors, but it struck him as not altogether out of the question whether some of the professional surveyors might not benefit by the assistance of a lawyer in preparing a quasi-legal Paper. The case of *Crawford v. Newton* had not found its way into what lawyers called the regular reports. It was not in the "Law Reports," but there were some very valuable notes on it in the "Professional Notes." So far as *Crawford v. Newton* was inconsistent with *Proudfoot v. Hart*, *Proudfoot v. Hart* must be followed as the authority. As Mr. PILDITCH had pointed out, it was quite impossible to reconcile some of the statements of the MASTER OF THE ROLLS, not with those of other judges, but with his own. It was stated by Mr. PILDITCH that in *Crawford v. Newton* there was a lease for 17 years. That statement shewed the great danger of gentlemen, however talented and however industrious, forsaking their own *métier*. There was no lease for 17 years in that case, but a five years' agreement at the end of which the premises were held over from year to year, and so to the expiration of a period of 17 years. Mr. Justice CAVE in that case pointed out the difference between papering, which is decorative repair, and painting, which may be decorative or preservative, and inasmuch as under the five years' agreement there was no express covenant to paint or paper there could, in the circumstances of the case, be no implied one—the holding over simply constituted a yearly tenancy, which would be on the terms of the origi-

nal holding so far as they were not inconsistent with a yearly tenancy.

A new being, the "reasonably-minded tenant," had been called into existence by Lord Justice BRETT. For many years he (Mr. WHEELER) had thought that the "hypothetical tenant" needed a bedfellow, and now there had been one found for him in the "reasonably-minded tenant," a person whom, he must confess, he had failed to find up to the present. The reason of his being called into existence was clear, it was to prevent covenants of that kind falling wholly within the domain of law; it was to keep them within the domain of fact, and to leave their interpretation to common sense, and the practical knowledge of surveyors. There could be no doubt whatever that the tendency of modern legislation, whether one liked it or not, was to throw upon lessors greater, and upon lessees smaller obligations, and that tendency seemed to find some expression in the cases of *Crawford v. Newton* and *Proudfoot v. Hart*. He desired to thank Mr. PILDITCH for his admirable Paper.

Mr. C. W. MILLAR (Fellow) said that, in reading the Paper through, he had felt that the different dicta laid down by the various judges were very hard indeed to reconcile with what he had always known as the practice in dilapidations. Mr. WOODWARD had referred to a question very important to surveyors at the present time, namely, the question of the cost of drainage under the Act being imposed upon the lessees or upon the lessors. He did not think, from his experience, that a lessee was very likely to be fined or mulcted in damages for new drainage at the present day, for very few tenants would now take a house without having the drainage thoroughly examined to ascertain whether it was good or not. With reference to the dictum in *Williams v. Williams*, that the amount by

which the reversion was depreciated in marketable value by reason of the premises being out of repair was the amount which the lessee under his covenant in the lease should have to pay, that was not applicable to all cases of dilapidations. In some cases it was necessary to make a survey of the premises during the tenancy and to serve notice on the tenant to do the repairs. Now, under the Act, when that notice to repair was served, a claim must also be made for what was considered the value of the dilapidations or repairs which the tenant was called on to do. But that would not shew the value of the depreciation in all cases, because it might be that the tenant was called upon to do those repairs and did not do them, and the premises in consequence of that got into a still worse state of repair, and the reversion was very much more seriously damaged than it would be otherwise. In the case of *Joyner v. Weeks*, the Judge decided that the lessee was liable to pay to the lessor the full value of the dilapidations, notwithstanding that he had relet the premises to another tenant who was going to pull down and rebuild a portion of the premises as well as to put the whole into repair. The amount of injury to the reversion in that case was not the amount which it would have taken to put the premises into repair, but the difference between what the old tenant should have done and what the new tenant was going to do.

He thought the case of *Coles v. Courtier* needed some explanation. The testator held those properties under leases—they were short leaseholds—and when he assigned or left by his will the property to his wife, or the trustees, of whom his wife was one, surely the liability to repair, contained in the covenants of those leases, was carried on either to the trustees or to the widow.

Where a lessee takes a lease of premises and in course of time assigns it (the lease might even be assigned a great

many times), the difficulty found in recovering damages for dilapidations was to know on whom to serve the claim, or what proceedings to take to recover them if one could serve it; for there was no cognisance legally between the assignee and the lessor, and in some cases, therefore, the lessor was not in a position to proceed against the assignee, and had to proceed through the original lessee down to the assignee. If that was the law on the case, it seemed to him important that some rule should be made, in granting licenses to assign, that the assignee should attorn to the landlord, either when the license was granted, or in some other form; otherwise there was no means of ascertaining how those notices to repair were to be served.

In the case of *Bettingham-Melhado v. Woodcock* it was held that the tenant was liable for certain work, notably drainage work, because the lease contained the word "outgoings"; the lessee was liable, among other things, to pay the "outgoings," and that was held to impose this liability on him, notwithstanding the fact that there was a qualification for ordinary wear and tear.

If the case of *Proudfoot v. Hart* did not decide anything else, it did decide the question of compensation to a landlord for the lessee not having fulfilled his covenant at the end of the lease, and, although this might in some cases appear to be hard on a lessee, it was equally hard on a lessor. The lessee was always careful to ask whether the house was in perfect order, and to call in the assistance of a surveyor to advise him; and in most cases he took very good care that his rent did not commence until the repairs were completed and the house was fit for occupation. He did not think it ought to be argued that the lessee was punished by having to pay a fine at the end of the term because he remained in that house. If he lived on the premises and had the advantage of the occupation of them

up to the last day of his tenancy, he should not object to pay a reasonable sum for not having fulfilled his covenant.

Mr. D. WATNEY (Fellow) said that as no other speaker had called attention to one point he should like to do so before the discussion closed. Mr. PILDITCH stated, on page 313, that he had prepared for his own use "a series of repairing covenants embracing every shade of responsibility, from the most complete to the most trifling." He appealed to him to give that series for the benefit of the Institution. He thought it would be useful to all the Members if they could get some regular forms of repairing covenants, and he was sure the Institution would be very much obliged to Mr. PILDITCH for the information.

Mr. E. J. VAUGHAN (Visitor) wished to point out, with reference to some remarks made by Mr. MILLAR, that there was a privity of estate between a lessor and an assignee. The original lessor could, therefore, sue the subsequent assignee upon the covenants in the lease so long as he held the property, although, of course, there was no contract between them.

Mr. PILDITCH, in reply, said he thanked all present very heartily for the kindly and generous way in which they had received his Paper, and especially those who had taken part in the discussion.

There were three or four points raised which he should like to say a word or two upon. Mr. C. K. BEDELLS had referred to the payment in respect of loss of rent if premises were not put in repair during the term of the lease, and remarked that it was often advisable that the claim should be given up in view of the advantage which accrued to the landlord from the premises being put in repair by himself. In the

majority of cases it was, undoubtedly, an advantage to the landlord. In his experience it was rarely the case that a tenant, in carrying out the repairs, attended properly to such matters as preparation for paint work, which made all the difference between the work lasting for two or three years, or from seven to ten years. The course usually and wisely adopted was for the landlord or his surveyor, when serving the notice to repair, to open up negotiations with the tenant three months before the expiration of the term, and ask him whether he would agree to make a money payment, and possibly give up possession shortly before the lease expired, instead of doing the repairs. But where such an arrangement could not be made, it was only fair the tenant should bear the loss of rent for the period during which the premises were untenable by being under repair.

Members were much indebted to Mr. STATHAM for his specific answers to the two rather difficult points raised in the Paper. They would all, he was sure, reap great advantage from the careful perusal of Mr. STATHAM's remarks, which, being so detailed and elaborate, he did not feel himself in a position to comment upon at that moment.

The great hardship of the maintaining clause was mentioned by Mr. WOODWARD. In his Paper he had referred to a case from which he thought it could be deduced that the stringency of the old maintaining clause in the older cases was much modified by that and one or two other decisions.

It was urged by Mr. WHEELER, whose wit and humour were always appreciated at the Meetings of the Institution, that, besides the benefit derived by lawyers from taking the advice of surveyors, surveyors should also be careful to take the opinion of lawyers. He himself always, whenever he had occasion, consulted a lawyer, and in his Paper, wherever there was a difficult legal point, he had refused

to give an opinion on it, but had asked the lawyers to do it for him.

Upon one point he could not agree with Mr. WHEELER, He certainly took it that the decision in *Proudfoot v. Hart* must vary the practice to a certain extent. When the law was definitely laid down upon any subject in a sense adverse to previous decisions, it must insensibly modify the practice, and the same applied to the new rule as to the tenant's liability for loss of rent. He was a little disappointed in Mr. WHEELER's speech because he made in it no reference whatever to two matters which he had undoubtedly made his own. All recognised Mr. WHEELER as an authority on dilapidations as a whole, but especially as an authority on the subject of the Measure of Damages, and the subject of Ameliorating Waste. If it was not too late, he hoped Mr. WHEELER would contribute a short Paper to the "Professional Notes" on those two points.

As to Mr. WATNEY's question, he could almost wish that the Institution would adopt a system which was adopted in a neighbouring Institution, and make a rule that notice of such questions should be given. If Mr. WATNEY would repeat his question at the next discussion upon dilapidations, he should be more in a position to reply to it than he was at that moment. He again thanked the Members present for their consideration, and regretted that the late hour prevented him dealing with other points that had arisen in the discussion.

THE CHAIRMAN said he should like to express his own personal thanks to Mr. PILDITCH for the service he had rendered the Institution in reading his valuable Paper. He would just add that, as in the case of *Proudfoot v. Hart*, he had found in several other cases that the law now bore more hardly upon the lessors than was the case in the former

practice ; and his opinion on that point had been confirmed by men of great experience in the legal profession.

He could not at all agree with what Mr. WHEELER said about the uselessness of discussion, if, indeed, he meant his words to be taken seriously. Those who had attended the discussion that evening would feel that, although there was much to reflect upon in the Paper, many gentlemen in that room had added much to its interest and value as a part of the "Transactions" of the Institution.

The Meeting then adjourned.

UNDERWOODS : THEIR GROWTH AND UTILISATION.

By TOM BRIGHT.

*Read at the Ordinary General Meeting of THE SURVEYORS'
INSTITUTION, Monday, April 10th, 1893.*

CHARLES JOHN SHOPPEE (PRESIDENT) IN THE CHAIR.

A PAPER on the subject of Underwoods was read before this Institution in the Session of 1873-74 by Mr. R. W. CLUTTON, and was subsequently discussed in conjunction with a Paper on Timber by Mr. WATNEY. Emanating from such authoritative sources, those valuable Papers were fully appreciated at the time, and, together with the mass of highly important practical information which they elicited, have since proved of great service for the purposes of reference.

Among the questions raised during the discussion were those relating to the money-value of the returns obtainable from underwood and timber, respectively, when grown together, and the various uses to which underwood produce was applied in different parts of the kingdom. The hope was expressed that these questions might form the bases of other Papers from Members who had paid special attention to such branches of forestry. So far as I am aware, the subject has not since been reopened, and it is, therefore, with a view of supplementing the Papers previously read that, at the suggestion of your worthy Secretary, I have the honour of addressing you to-night. At the same time

I am not unmindful that many among my audience will have had a life long experience in directing the management of extensive areas of woodland, and, consequently, it is not without a feeling of considerable diffidence that I approach the subject

Dealing with the commercial side of the question only, my remarks will, I fear, prove of a very dry and commonplace description; but, as they are, in a great measure, drawn from my own observation and experience in the detailed management and realisation of underwoods in different parts of England and Wales, their practical nature will, perhaps, afford a redeeming feature in your estimation.

The important part which coppice or underwood—and I propose to use the terms indiscriminately—fills in the forest economy of the United Kingdom is not easily determined, as, although the woodlands formed the subject of a more exhaustive inquiry in 1891 than had before taken place for the purpose of the Agricultural Returns, yet no distinction was made between the areas devoted to the growth of timber and underwood. Indeed, judging from the scanty reference made to underwoods before the Select Committees on Forestry, appointed by the House of Commons in 1885-87, it would appear that they were not deserving of much consideration. The clause referring to woodlands generally in the final Report of the Committee, however, is a singularly comprehensive and important one. It reads as follows:—"Your Committee are satisfied that, "so far as Great Britain and Ireland are concerned, the "management of our woodlands might be materially improved. Moreover, the present depressed values render "economical and skilful management even more important "than if the range of prices were higher, though it is "probable that, with the waste of forests elsewhere, a

“brighter future is in store for home forestry.”* This paragraph is certainly not very complimentary to those responsible for the management of our woodlands; but, so far as underwoods are concerned, I propose to shew, by means of a brief description of the different modes of treatment in use, and the results obtained therefrom, that, in many districts, they have been both economically and systematically managed.

In a practical sense, underwood is so closely connected with timber that it is almost impossible to deal exhaustively with the returns obtainable from one without encroaching on the preserves of the other. It is well, however, for many purposes to draw a distinction between the two, and, as Mr. WATNEY has given a very clear definition of timber, it only remains for me to add that underwood generally consists of the promiscuous growth of seedlings, stool-shoots, and root-suckers in woods, cut periodically, and all of which are less than six inches quarter-girt at the height of five feet. Whilst thus including all coppice plants of less than six inches quarter-girt, capable of natural reproduction from stools, it will be observed that coniferous plants are excluded. This practical definition is largely based on the principle laid down in the case of *Rex v. Ferrybridge*, when (to use Mr. WATNEY’S words) “the Court held that firs and “larches, although cut for hop-poles, were not saleable “underwoods . . . for the reason, amongst others, that “upon being cut down they do not grow again, and that “there is no regular course of cutting them for sale.”† A distinction is implied between “underwoods” and “saleable underwoods” in this decision, but the exact difference between the two has not, I believe, yet been defined by legal authorities.

* Report from the Select Committee on Forestry, 1887, p. iii.

† Vol. vi., part vii., p. 182.

The different systems or modifications of systems of management adopted to meet the local peculiarities of soil and situation, and the special requirements of various districts, may be classified under the following heads:—

1. Where the land is devoted exclusively to the growth of underwood.
2. Where a large number of trees are grown among the underwood, the latter being of secondary consideration only.
3. Where a number of trees (generally oak) are grown among the underwood, equal attention being bestowed on both.

1. *Land devoted exclusively to the growth of underwood*:—This system is especially suitable for the production of hop-poles, cratewood, barrel-hoops, bobbins, rake, mop, and other handles, and is somewhat extensively adopted in different parts of England for such purposes. In the counties of Kent and Sussex the primary object in view is the growth of hop-poles; while in parts of Surrey and the districts adjacent to the manufacturing centres, the production of hoop, crate, and bobbin wood forms the chief consideration. The length of rotation is largely dependent on soil and situation, but generally ranges between seven and twelve years. As a rule, the quickest grown produce is the most valuable.

The money-value of the returns obtainable from this system is rather precarious, being governed by the condition of the industry for which the wood has been specifically grown. Very high prices have been paid for the periodical cuttings of such woodland in the Wealden district. In consequence of the heavy losses sustained by hop-growers during the years 1885-88, the selling value of these underwoods was very materially reduced. Some idea of the extent of this decrease may be gathered from the following

statement, giving the results obtained at different periods for the produce of woodland, managed under this system, in the centre of the Weald of Kent. The sums mentioned are the rates per acre realised, through sale by auction, for the various cuttings :—

	1866.		1873.		1882.
	£ s.		£ s.		£ s.
Alder and Chestnut	24 15	..	14 10	..	14 5
	1867.		1875.		1885.
Chestnut	39 10	..	45 10	..	25 15
	1869.		1879.		
Do.	30 10	..	29 0		
	1874.		1884.		1885.
Do.	32 5	Part	37 0	Part	11 15
	1873.		1884.		
Ash and Chestnut .	18 15	..	26 15		
	1877.		1887.		
Do.	34 5	..	5 15		
	1873.		1882.		1892.
Do.	37 0	..	32 10	..	35 5
	1867.		1878.		
Ash	18 10	..	14 0		
	1868.		1879.		
Do.	17 10	..	14 10		
	1870.		1880.		1892.
Do.	17 0	..	18 10	..	14 0
	1874.		1885.		
Do.	30 5	..	12 0		

From 1887 to 1891 the produce of many of the above woods was disposed of privately. The prices realised for the better class of produce during the past season have been almost equal to the higher figures shewn in the above statement. The fact is certainly worthy of note, that, whereas well-grown underwood of ten years' growth has realised over £35 per acre, during the present severe depression in agriculture, rough produce has only brought from £2 to £4 per acre in the same locality.

There is a wide difference, however, in the sums realised by the best produce in different years, and it may be doubted whether such variation is wholly attributable to the state of the hop market, or whether the quantity or quality of the wood produce had not depreciated between the various cuttings, either from irregular treatment, or some other cause which had materially affected its development. Through the kindness of old and experienced dealers in underwood, who allowed me to investigate their books, I have been able to trace in detail the yields of several of the plots before referred to at their different cuttings. I will not trespass on your patience to-night by attempting to submit such details; but, after a careful comparison, I may say that the produce yields were practically the same, taking one cutting with another. I also found that the profit accruing to the buyers was invariably less, per acre, when the purchase-price was very low than when the higher sums had to be paid. Anyone interested in the detailed particulars of labour, cost of cutting, and of the ultimate yield of such woods to the purchaser, will find them given in a work on the subject which I published a short time since.*

The average number of hop-poles obtained at each cutting from such woodland ranges from 3,000 to 5,000 per acre. Taking the average growth at ten years, this would give an annual average supply of 400 poles, or about the number required annually to replenish a garden in full bearing. From these figures it would appear that the poles from an acre of such underwood would be utilised for a similar area of land under hop cultivation. The total area of hop land is given in the Produce Statistics for Great Britain for 1892 as 56,259 acres, and, assuming that the cost of the poles for replenishment amounts to £3 per acre,

* "Pole Plantations and Underwoods," CROSBY LOCKWOOD & SON.

we get a total sum of over £168,000 as representing the amount expended annually on hop-poles.

The poles which command the highest values are larch, Spanish chestnut, ash, maple, red willow, and alder, the prices varying considerably at different periods, and ranging somewhat as follows:—

16-ft. poles	- 16s. to 35s.	12-ft. poles	- 5s. to 15s.
14-ft. do.	- 7s. to 22s.	10 & 11 ft. poles	3s. to 11s.
13-ft. do.	- 6s. to 20s.		

per 100 respectively, delivered in the wood.

Some of the larger poles are used for fencing purposes. Both ash and Spanish chestnut make excellent hurdles, and of the two the latter is perhaps the more lasting. The labour-cost of making 4-bar hurdles is from 3s. 6d. to 5s., and 5-bar hurdles 5s. to 6s., per dozen respectively, their selling value ranging from 12s. to 18s. per dozen.

In Shropshire and some parts of Staffordshire a modification of this system is sometimes adopted in the production of cratewood. A rotation of seven or eight years is generally found sufficient for the growth of crate rods, but these often sell more readily if the requisite number of crate heads can be supplied with them. The latter are formed from larger wood, and a number of poles are therefore left until the second cutting to provide the necessary heads. Prices vary considerably, ranging from £5 to £20 per acre.

As matters of detail, I may be permitted to add that a bundle of cratewood consists of 42 whole rods from 10 ft to 12 ft. in length, or 84 half-rods; 9 bundles of crate rods, or 63 heads (poles of 6 ft. in length) make a load, 3 loads being reckoned as 1 ton. A load of crate rods or heads is at present worth from 9s. to 11s. delivered at the potteries.

There is an appreciable demand in many parts of the country for ash poles suitable for the handles of implements,

prices ranging from 10s. to 40s. per 100. Alder is much used for rake and mop handles, realising, for six to nine years' growth, from £5 to £12 per acre in the South of England. Poles suitable for mop handles fetch from 2s. 6d. to 3s. 6d. per 100; rake handles from 5s. to 7s. 6d. per 100. There is also a constant demand for alder clog soles, sizes varying from 6 to 12 inches in length, 2 to $2\frac{1}{2}$ inches in width, and 1 to $1\frac{1}{2}$ inches in thickness.

The time at which underwoods reach maturity under this system forms a matter of importance for the woodreeve. No hard-and-fast line can be laid down on this point, as it is largely governed by soil and situation. In the Weald such underwoods are generally expected to continue improving until about the 50th year, to remain stationary from the 50th to the 70th year, and afterwards decrease in value. After the 5th or 6th fall, the woodreeve will probably deem it advisable either to convert his underwood into high forest, or into coppice with standards.

2. *A large number of trees being grown among the underwood, the latter forming a secondary consideration only.*

This system is often followed where the object is to produce as much timber as possible, there being probably no remunerative demand for underwood. The trees are generally of about the same age, their drip and shade ultimately destroying the underwood. They should be of a better shape, with cleaner, straighter boles than if a lesser number were grown and equal attention paid to the underwood; but, on the other hand, a considerable expenditure will probably be required in again introducing underwood plants at the clearance of the timber. The financial results obtained under this system would be almost entirely derived from the sale of the timber when mature, and their consideration, therefore, would scarcely come within the scope of this Paper.

3. *A limited number of oak trees being grown with the underwood, each receiving equal attention.*

A considerable area of woodland is worked under this system, more particularly in the Weald, and with slight modifications in many parts of the West and North of England. It assumes a fair demand for both underwood and small-size oak timber. The returns obtainable are less fluctuating than where underwood alone is grown, though they would probably occupy a middle position in the three different methods.

Among the species of underwood which thrive under this system may be mentioned Spanish chestnut, ash, hazel, oak, beech, and maple.

The number of standards reserved at each cutting varies considerably in different localities. The Herefordshire method of growing a large number of standards with the underwood may be described as a useful modification of this system. On many large estates in that and the adjoining counties I find that it is customary to reserve one additional standard in every lug (7 yards square), or about 100 per acre, at each cutting. These are allowed to stand, some until the second, and some until the third cuttings, when they would be from 40 to 60 years old. The straightest grown standards are then converted into cleft spokes, gates, or hurdles, and the others go for pitwood. The underwood, which consists chiefly of hazel, oak, and ash, is sold for a variety of purposes, including hop-poles, fence-poles, hurdles, and other minor requirements. The prices obtained under this system depend in a great measure on the situation of the wood in regard to railway facilities; but they generally range from £15 to £20 per acre for underwoods of 17 to 25 years' growth, including from 60 to 100 standards of various ages.

In many parts of the Weald it is customary to reserve about one standard per acre, for each year of growth of

the underwood. Thus, where the underwood is cut every tenth year, some 10 or 12 standards would be reserved. These standards are allowed to remain until about the fiftieth year, unless, from accident or abnormal development of head, it becomes desirable to remove them earlier. As to the returns obtainable under this method of treatment, I propose to offer some remarks later on.*

In the South-West of England, particularly in North Devon and West Somerset, many among my audience will have observed extensive tracts of boldly undulating land devoted to the growth of oak coppice wood with standards. A considerable portion of this produce finds its way into the wholesale market as bark, charcoal, and volatile products. Oak bark, which forms the most important of the group, is, we know, being largely superseded by "hemlock extract," a decoction of the bark of the hemlock spruce, and "mimosa bark" from the black wattle of Australia, for tanning purposes.

The low prices obtainable of late years for oak bark have led many to doubt the expediency of felling their oak timber in May, when the sapwood is often rendered worthless. In the south-western district referred to, the prices realised during the past season for oak bark obtained from coppice wood of 25 to 30 years' growth, has been 85s. to 90s.; while that from timber has only brought 75s. to 80s. per ton respectively, delivered at tanners' yards. A ton is equal to 21 cwt. including binds. The labour cost of stripping,

* It is worthy of note that an Act passed in the reign of HENRY VIII. provided that "if coppice wood is felled at, or under 24 years' growth, "there must be left twelve standils of oaks in every acre, or the like "number of ash, elm, &c., on pain of forfeiting 3s. 6d. for every standil "wanting . . . such standils shall not be cut down till 10 inches "square within three foot of the ground, or until so many years after "left, under the penalty of 6s. 8d."—Stat. 35, cap. 17.

drying, and binding bark has been from 55s. to 60s. per ton for coppice wood, and 38s. to 42s. per ton for timber.

The chief use of charred wood fibre in this country is for the manufacture of gunpowder, for which purpose the alder buckthorn, better known as "dogwood" (*Rhamnus frangula*), willow (*Salix alba*), and alder are preferred. Dogwood is a slow-growing shrub attaining a diameter of an inch in from 7 to 10 years, at which stage it is cut in lengths of not more than 6 feet. The true dogwood of gunpowder repute is, I believe, grown almost entirely in the woods of Kent and Sussex. Willow and alder are cut when from 3 to 5 inches in diameter.

Of the two systems of burning charcoal, the old method of pit burning is still followed in some districts, though the system of manufacturing it in iron cylinders or retorts is undoubtedly the most economical. By the latter means the inflammable gases extracted from the wood are conveyed by pipes into furnaces below the retorts, while other products are condensed and collected. Among the distillates thus obtained is that known as "wood vinegar," which in its turn yields "wood spirit."

A considerable proportion of the oak underwood grown in the upper part of the Exe valley in North Devon and West Somerset is utilised for this purpose. The process of distillation is exceedingly interesting, and if the opportunity should occur, I would strongly recommend any person concerned in the disposal of forestry bye-products, to make an inspection of one of these works. Through the kindness of the managing director of the chemical industry in North Devon, I am enabled to give the average products obtained from half-dry oak coppice wood. The yield varies with the dryness of the wood, but under the circumstances indicated, a ton of wood may be expected to produce 5 cwt. of charcoal,

$1\frac{3}{4}$ cwt. of brown, or $1\frac{1}{2}$ cwt. of grey acetate of lime—which being redistilled with muriatic or sulphuric acid yields the acetic acid of commerce—and $1\frac{3}{4}$ gallons of miscible naphtha, 60 degrees overproof. The wood also contains tar, creosote, and a heavy oil, but in such small quantities that they do not pay to separate and refine. The present total value of the above products in the wholesale market would be about £1 10s. By comparing the selling value of a ton of oak coppice faggot wood, which, at 40 lbs. per faggot, would probably not amount to more than 10s., with the sum obtained from the above products, some idea of the advantages attached to the system of distillation may be gained.

Faggot wood is chiefly used as fuel for domestic purposes, the demand being somewhat in proportion to the price of coal in a locality. The selling value may be stated as between 15s. and 25s., and the labour-cost of making from 4s. to 5s. per 100 faggots respectively.

A large quantity of the underbrush is used for burning bricks and tiles, and varies from 3s. to 4s. per 100 faggots, the labour-cost of making the same being from 2s. 6d. to 3s. Small faggots for lighting fires are also made from the underbrush, and realise about 8s. per 100, the cost of making being 5s. per 100.

A quantity of the smaller class of underwood produce is used for bobbins, umbrella and parasol handles, walking sticks, gads for thatching pegs, dahlia and rose stakes, kidney bean and pea sticks, besoms, &c.

In addition to the applications before referred to, a great deal of underwood is utilised on farms for a variety of purposes. In many parts of England, more particularly in the south-eastern counties, it is not unusual to let the underwood in some of the smaller enclosures of woodland with the ad-

joining farms, the standards (if any) being reserved to the landlord. Under this arrangement, the growing crop of underwood forms part of the tenant-right valuation at the termination of the tenancy.

There is, undoubtedly, much to be said in favour of this practice, especially on sheep farms, for the underwood produce is capable of being utilised to the tenant's advantage for a great variety of farm purposes. Poles are used for making racks and hurdles, repairing gates and fences, and propping stacks; spars and rick pegs are made from the smaller wood; thorns prove of great service in repairing gaps in fences; while the refuse may be utilised for firewood, stack bottoms, &c. Much of the work referred to can be done at a time when other kinds of labour are practically at a standstill on farms.

To meet this rather long list of requirements the woods apportioned to the farms on an estate should be filled up with such kinds of wood as are likely to be constantly needed by the tenants. In practice I regret to find that, as a rule, the management of these woods is somewhat neglected by the tenants, thus emphasising the truth of the old saying that "forestry and farming are best apart." In cases of gross mismanagement, I am at a loss to understand why some allowance should not be made by the outgoing tenant; but, although I have assisted in some scores of tenant-right valuations in which the growing underwood has been included, I do not remember a single instance in which such a counterclaim has, if made, been allowed.

The limits of this Paper forbid my dwelling on the practice of underwood valuation; but I may add, for the benefit of those who may not be aware of the fact, that this part of my subject was very ably dealt with some years

since by our esteemed friend Mr. W. STURGE, for the purposes of the Rating Act of 1874.*

Referring to the question raised in 1874 as to the money-value of the returns obtainable respectively from timber and underwood when grown together, there appears at first sight to be little difficulty in arriving at a satisfactory conclusion on this point. Upon approaching the subject more closely, however, it becomes manifest that a perfectly accurate and conclusive reply can only be given from a comparison of the actual returns obtained from two similar plots of woodland, one producing standards and underwood, and the other underwood alone, during a complete rotation. The great variation in the selling values of hop and other poles renders the sums obtained at two, or even three, different cuttings, of little use as a basis of comparison. As this mode of procedure, therefore, suffers under the fatal drawback that it would be something like 100 years before the results could be utilised, some other means must necessarily be devised for overcoming the difficulty.

The cubic contents of the wood produce obtained under each system might, of course, be ascertained, but these would scarcely serve as a satisfactory basis of comparison, as no sufficient distinction could be made between straight-grown poles and irregularly-grown firewood. Under these circumstances, the only practical course which presents itself is that of ascertaining the average rate of increment made by oak trees grown with underwood, and the space which they occupy during such growth. The former may be defined from actual measurements; the latter involves some calculations of a slightly speculative nature.

With a view of ascertaining this rate of growth I instituted a number of experiments in the measurement of oak

* Vol. 9, parts ii. and iii.

trees standing in the Weald some years since. For the purposes of illustration I will take the case of a wood situate in the centre of the Weald of Kent, on fairly stiff clay soil, with a subsoil of clay of the Wealden formation, and within a quarter of a mile of a main road. It has an undulating surface sloping in various directions, but for the greater part having a north-eastern aspect. The altitude of the enclosure varies from about 100 to 200 feet above sea level, the average rainfall for the locality being about 25 inches per annum. The adjacent land is used for agricultural purposes, and has a rental value of between 8s. and 15s. per acre.

If the woodlands of the United Kingdom were divided into five quality classes on the principle expounded by Dr. BAUR, and adopted in Germany, I should imagine that the soil under consideration would come in the 2nd quality class for oak, *i.e.*, there would be one soil of higher and three of lower quality. The higher quality would probably be represented by a growth of from 12 to 18 feet of timber (quarter-girt measure) in 50 years, in some highly-favoured situation, and the lowest quality by a growth of from 3 to 5 feet during the same period, as found, for instance, in many of the woods in the West of England forming the home of the wild red deer.*

The enclosure in question has been managed as wood-

* According to Professor SCHLECH, "Dr. BAUR starts from the simple fact that a good locality (soil and climate) produces great height growth, and an inferior locality small height growth, and he simply says that all woods which at the same age show the same mean height growth must grow on localities of the same quality as far as silviculture is concerned. He selects a large number of woods, ranging in age from early youth up to maturity, and arranges them, according to their rate of height growth, into two, three, or more quality classes. This done, he constructs out of the woods placed into each quality class a yield table for that quality."—"Yield Tables for the Scotch Pine," MESSRS. W. H. ALLEN & CO.

land for a period of at least 60 years, the underwood having been cut under a 10 or 12 years' rotation, and the standards under a course of about 50 years. The produce consists of a number of oak standards and trees averaging from 40 to 50 per acre—some ten or twelve having been reserved at each cutting of the underwood—while the undergrowth is chiefly composed of the shoots from ash, hazel, oak, and chestnut stools.

In arriving at the average rate of increment attained under such conditions, I have carefully measured a large number of trees and standards left at the different cuttings in this and other woods of similar soil and situation. In a few instances, I found trees which differed considerably from the average contents stated hereunder, but on the whole I have been somewhat agreeably surprised to learn that the great majority of the trees in each class did not vary much from the mean average.

In ascertaining the area of land occupied by a standard at different stages of its growth, I have not only taken the average extent of land on which the droppings have practically destroyed the underwood, but I have also considered the effect of the tree shade on other underwood plants immediately adjacent. The latter, of course, varies in proportion to the size and density of the crown of the tree, and the shade-bearing qualities of the underwood. Having regard to the species of plants under consideration, the areas stated in the following table may be taken as fairly applicable in the present instance :—

Table shewing average area and value of space occupied by an oak standard.

Approximate Age.	Diam., breast high under bark.		Diam. of space occupied.		Proportion of an acre occupied.	Decennial Value of space at £10 per acre, per cutting.		Accumulative value of space at 5 per cent. compound interest.	
years	in.		ft.			s.	d.	s.	d.
10 ..	1·9	..	—	..	—	1	0	1	0
20 ..	4·7	..	5	..	$\frac{1}{22 \frac{1}{2}}$				
30 ..	7·	..	12	..	$\frac{1}{38 \frac{5}{8}}$	0	6	2	1½
40 ..	9·5	..	18	..	$\frac{1}{17 \frac{1}{2}}$	1	2	4	7
50 ..	11·4	..	21	..	$\frac{1}{12 \frac{5}{8}}$	1	7	9	0
60* ..	12·8	..	21	..	$\frac{1}{12 \frac{5}{8}}$	1	7	16	3

Table shewing average rate and money-value of growth of standards.

Approximate Age.	Qr. girth breast high under bark.		Mean qr. girth.		Height at which mean qr. girth is not less than 6 in.	Contents, cub. ft.	Value.		
Years.	in.						£	s.	d.
10 ..	1½	..	—	..	—	—	0	1	0
20 ..	3½	..	—	..	—	—	0	2	0
30 ..	5½	..	—	..	—	—	0	3	0
40 ..	7½	..	7	..	16	5½	0	5	6
50 ..	9	..	8½	..	17½	8½	0	10	4
60* ..	10½	..	9	..	18	10	0	15	0

* Partly estimated.

*Comparative Estimate of the cost and returns from standards
grown on an acre of such woodland, at each cutting of
underwood.*

				Value of space occu- pied during growth.			Selling value.				
				£	s.	d.	£.	s.	d.		
6 standards, 50 years old . .				2	14	0	. .	3	2	0	
1	„	40	„	. .	0	3	5	. .	0	5	6
2	„	30	„	. . .	0	3	3	. .	0	6	0
3	„	20	„	. . .	0	3	0	. .	—		
				£3	3	8	. .	£3	13	6	

Underwood on remainder of

space at £10 per acre.	6	16	4	..	6	16	4
	£10	0	0		£10	9	10

While the returns obtained at each cutting from an acre of underwood only would thus amount to £10, those from underwood with standards, under similar conditions, might be taken at the sum of £10 9s. 10d.

From these observations it may be fairly inferred (1) that the system of growing a number of standards among the underwood for a period of 50 years, is a profitable one on the soil under consideration, if the underwood does not command a higher price than £10 per acre per cutting; and (2) that under the same conditions it would not pay to allow the standards to remain until they were 60 years of age, there being an average loss of 1s. 3d. on each standard so grown.

We may now look for a moment at the question of returns obtainable from such standards if allowed to remain

for a longer period. Taking the average value at 50 years' growth at 10s. 4*d.*, if the standard were allowed to remain until it had reached the age of 100 years, it should then be worth no less than £3 13s. 6*d.* to return 4 per cent. compound interest on such original value. This sum would represent an average contents of about 37 feet at 2s. per foot, or 33 feet at 2s. 3*d.*, a result which in either case is very improbable ; while to return 5 per cent. the average contents of each tree would have to be 59 or 52 feet respectively. I would submit, therefore, that the system of growing a limited number of standards with the underwood, and of felling such standards at the age of 50 years, represents the more profitable method of working the woodland in question.

I do not claim absolute accuracy for the figures given in the foregoing tables and estimates, but they may be deemed sufficiently correct for all practical purposes. Although the principle may be applied to other woods, the yield tables will, of course, require careful modification to meet the capacity and quality of other soils and situations. I have little doubt but that some among my audience will have compiled similar tables shewing the yield capacity in other parts of the country, and a comparison of such tables would, I feel sure, prove highly interesting to the Members of this Institution.

From what has been previously said, it will be manifest that there are good and sufficient reasons for the various systems or modifications of systems adopted in different localities. I will not trespass on your patience by attempting to point out in further detail the advantages and disadvantages connected with each method of treatment ; but I cannot leave this part of my subject without drawing attention to the remarkable manner in which the several systems of underwood culture have been adapted to meet the

special and varied requirements of localities in different parts of the kingdom.

Taking the Herefordshire system as an example, we find the local demand is for pit-props, spokes, hurdles, hop-poles, and cratewood. Now, oak pit-props require a rotation ranging from 30 to 60 years, hurdles 20 to 40 years, hop-poles and cratewood 7 to 12 years; yet under the system followed the whole of these singularly-varied requirements are met in an economical and fairly satisfactory manner at each cutting. Moreover, in the majority of woodlands, agents have had to make provision for still another demand, and that of an exacting and antagonistic nature. I refer to the breeding and rearing of game. Where the sporting qualifications of an estate form the chief consideration in the management of the underwoods, it is, of course, impossible for an agent to command the returns which he would otherwise obtain if his hands were not thus fettered.

A striking instance of the sacrifice of underwood to the preservation of sport was afforded by the woodlands—extending over about 1,000 acres—on an important estate in the Midlands, upon the valuation of the timber and underwood on which I was recently engaged. The underwood consisted almost entirely of blackthorn, which, in many places, it was impossible to penetrate before rides were cut through it. The only use to which this wood was applied was, so far as I could gather, the erection and reparation of wattled fences. The money-value of the cuttings was merely nominal; although good ash underwood of 10 or 12 years' growth realised from £10 to £15 per acre in the district, for cratewood. It is but fair to add, however, that the selling value of the estate in question was undoubtedly very much enhanced by its sporting qualifications.

Whatever the object may be, I take it that, in the management of woodlands, the first duty of an agent or woodreeve is to carry out the wishes of the owner in the best possible manner. Outsiders seem to ignore this responsibility entirely, and, regardless of the conditions under which an agent has to work out his system of woodland management, they criticise and condemn his mode of treatment because it may not be in accordance with the most approved principles of scientific silviculture. Under these circumstances, estate agents and woodreeves have been recently subjected to a deal of unfair criticism with reference to the woodlands under their care. It is true that they may not have achieved success by carrying out every effort of production in the most ideally perfect way, but, in the majority of cases, I contend that, having regard to existing circumstances, satisfactory financial returns have been obtained from our underwoods by a careful study of local requirements and an economical use of the means at hand.

At the same time, I am not unmindful that there are extensive areas of woodland which might be materially improved by the introduction of suitable underwood plants. The replenishment of underwoods, and the various methods adopted in different parts of the country for severing the produce from the stools, are both subjects upon which I hoped to be able to offer a few remarks, but I fear that I have already overstepped the limit of your kind forbearance.

In concluding, therefore, I am fully sensible how inadequate has been my attempt to supplement what has been already laid before you on this important department of British forestry, though I trust that the effort may prove to be the means of eliciting from more experienced persons some valuable information on the subject. I would also

apologise for the length of time I have trespassed on your attention.

Mr. C. OAKLEY (Fellow) said he had much pleasure in proposing a vote of thanks to Mr. BRIGHT for his very able and interesting Paper. It was now nearly twenty years since the subject had been brought before the Institution by Mr. R. W. CLUTTON in the Paper to which reference had been made, and Members would feel under an obligation to Mr. BRIGHT for bringing it again before them; especially as the preparation of the Paper, and the conducting of the experiments referred to, must have involved the expenditure of much time and trouble.

There were one or two points on which he would like to say a few words. In the first place, he thought it was impossible to combine the growth of good timber and good underwood. If the object was to produce good timber it was difficult to produce good underwood. In the southern parts of England it would be found that the third system referred to in the Paper would be the most generally useful, namely, the system "where a number of trees (generally oak) are grown among the underwood, equal attention being bestowed on both." If the district were one in which hops were grown the production of hop poles would be aimed at, although, owing to the great variation in the price of hops, there was considerable fluctuation in the prices of the hop poles, and consequently very uncertain returns; but by growing a limited number of young oak trees among the underwood the most remunerative results would, in the long run, be secured in such districts.

With reference to the figures as to prices which Mr. BRIGHT had given on page 351, the contrast in some cases was so striking that he should like to know whether they referred to the same fall of wood. In one case the return

was £34 5s. in one year, and only £5 15s. in the next. He did not think the fluctuation in the price of hop poles or other produce would account for so wide a difference as that. Two or three other similar cases were given in which he thought there must have been some very special causes to account for the difference, and he should feel obliged to Mr. BRIGHT for a little more information on that point. The question was, whether the figures in all cases referred to the same fall of wood.

With reference to the remark on page 354 as to underwood stools over 50 years old falling in value, there could be no doubt that the stools wore out in time, but there were many cases of stools growing very much longer than that, and it did not become necessary to replace them till they were very much older than 50 years.

The price of bark had, no doubt, of late years been very low indeed, and he noticed that Mr. BRIGHT gave the labour cost of stripping, drying, and binding the bark at from 55s. to 60s. a ton. The price used to be about 30s. a ton. He was not able, from his own experience, to speak as to the distillation mentioned by Mr. BRIGHT, and as to making use of the bye-products of underwood, but, no doubt, if those products could be obtained economically, and sold at remunerative prices, they would counteract the low price of bark.

He agreed with Mr. BRIGHT as to the advisability of letting underwood with farms, especially in hop districts. Where the tenant could use the wood for farm purposes it was to his benefit and to the landlord's benefit that he should have a small amount of woodland with his farm, but where large woods were let to tenant farmers they generally deteriorated very much. The landlords ought to find plants for planting up the woods when cut, as tenants could not be expected to do so. In the majority

of cases woods were very much neglected, because, probably owing in some measure to depression, landowners had not been willing to find the money to plant them up properly. They did not look forward to what would happen 25 years hence, and did not consequently care to lay out the money; but if woods were planted up at an expense of 50s. or £3 an acre, it would, on suitable soils, generally pay well.

With regard to the age at which trees should be cut for profit, he thought Mr. BRIGHT's statistics pointed to the same conclusion, as (speaking from memory) he thought Mr. R. W. CLUTTON's Paper in 1874 also indicated—that it paid best to cut oak trees when they contained about 8 or 10 cubic feet, and replant, if the question of profit only were considered, apart from questions of appearance or ornament.

The question of game was mentioned in the Paper, and this was a matter of great importance in dealing with woodlands. It was very often a thorn in the side of land agents in various parts of the country, and there was very little use in spending money in planting trees where the landowner (or his keeper) would have a large quantity of ground game. He knew of cases in which the underwood, having been undisturbed, paid very well, but in other cases it had been destroyed by rabbits, and he was convinced that the preservation of ground game and the cultivation of underwood could not be carried on together with remunerative returns.

Mr. A. BUCK (Fellow) said he had very much pleasure in seconding the vote of thanks to Mr. BRIGHT for his very instructive Paper, and he was glad also to have the opportunity of complimenting him on his book on the subject published a few years ago.

Speaking of underwood pure and simple, his experience was that nothing paid better than a plantation of Spanish

chestnut or ash—everything on it to be felled, and nothing left at each fall. He had in his recollection a comparatively small plantation planted by Mr. OAKLEY's father. One part was planted with ash and the other with Spanish chestnut with larch amongst it. The larch became ready first, and paid for the whole cost of planting: then the ash and chestnut. On one occasion the chestnut sold at £65 an acre, although there was nothing bigger than a hop pole upon it. All through Herefordshire, Monmouthshire, and the midland counties it was found that, as regards underwood, nothing paid so well as either ash or chestnut. The "tellars," as they were called, were not considered timber, and the tenant for life was entitled to fell them. There were single tellars and double tellars, the latter being left for the next fall, until 28 years old, and sometimes even longer than that. In Monmouthshire the bark was stripped before the trees were felled: they were not treated as timber trees at all; but were part and parcel of the underwood, except that they were allowed to remain until 14 or 28 years old. The best way of treating such a plantation was, at each fall, to plant it up well, but this, as Mr. OAKLEY had said, was perfectly useless if there were rabbits. He had himself planted hundreds of trees which had been completely destroyed by the rabbits.

The profitable growing of underwood and timber together he believed to be a practical impossibility. The most difficult class of land that he had ever had to deal with was where this had been attempted. After about 80 or 90 years there were oak trees standing, under which no underwood would grow and there was not enough cover to make good shooting. The trees arrived at a certain state of growth, and if they were thinned out the others were exposed and were more likely to perish than to improve. On one estate of

which he had the management there were 70 or 80 acres of land on which the black pole had been allowed to grow into timber about 80 or 90 years ago. The underwood was all gone, but one hardly liked to go and clear the whole wood off the face of the earth. In a similar case which he remembered about 40 years ago Mr. OAKLEY's father had the whole cleared and replanted, and the plantation became one of the most successful he had ever known. It was a question of having the courage to cut down trees which had arrived at a certain age and were never likely to improve. He would himself not grow any trees in underwood except for ornamental purposes. The only underwood which paid was underwood pure and simple where the whole of it was cut down, or the general underwood where tellars were left at each fall so that there was nothing left to come into timber.

With regard to the letting of underwood, he did not think this desirable; but if he did let it he was careful to remember what he had learned in Kent in early life, and always got the incoming tenant to take to it down to the stool. This was not the custom in the midland counties. There it was frequently the case that an incoming tenant took some coppice wood, which when he was going out was perhaps not old enough by a year, but the temptation would be too great and he would cut it. The tenant should take to it down to the stool, which would do away with the temptation to cut it before the proper time.

With regard to the 6 inches quarter-girt limit he took it that this measurement did not in all cases distinctly determine what was timber. Timber was all which was not capable of being felled by a tenant for life, and if the black poles, to which he had referred, were not left beyond the period usually allowed, they would not come within the definition of timber.

Mr. E. W. HUDSON (Fellow) said he should like to ask the author of the Paper for some information as to the use to which hornbeam was applied. One sometimes saw it cut down and lying in the forests, and he wished to learn whether it was extensively planted, and for what purpose.

The CHAIRMAN said that hornbeam, being an exceedingly tough wood, was used in the making of plumbers' and other tools, and also by millwrights for cogs.

Mr. H. A. RIGG (Associate) said he was not quite sure whether he would be able to be present at the next Meeting, and he would therefore take that opportunity of asking the previous speaker, who referred to a plantation with which he was acquainted planted with larch, ash, and chestnut, whether that was in a hop country, and what was the nature of the soil.

Mr. BUCK said that it was in a hop district. The chesnut or ash were planted about 6 feet apart, and the larch between them, and the larch was cut when big enough for hop poles.

Mr. RIGG said perhaps Mr. BRIGHT would be good enough when making his reply to give some information on the following point. Very often one found that underwoods had deteriorated very much, owing to the timber having been allowed to grow to a great age; and in some cases the underwood had even disappeared. When the timber had been cut down, he should like to know what was the best sort of underwood to renew a general plantation with, and whether one ought only to dig holes or trench the whole piece of ground. He should also be glad to know, supposing one had a piece of land in that unfortunate Weald country

to which Mr. BRIGHT had alluded, which it was impossible to cultivate to any advantage as pasture or arable, ought one to plough it up and plant, or ought it to be trenched; and would he advise the following out of the suggestion that it should be planted with larch, ash, and chestnut? He asked with regard to clay land on a Wealden formation, because a great deal of such land had become very difficult to cultivate.

In the part of Sussex with which he was best acquainted the expression "tellar" was used with regard to seedling oaks, and it was not considered that a tenant had the right to cut a seedling oak although it had all the appearance of underwood.

He thought the Paper an eminently practical one, and admirably suited for reading before a Meeting of The Surveyors' Institution.

The vote of thanks having been put and carried unanimously, the discussion was then adjourned to the Meeting of Monday, April 24th.

AT
THE ORDINARY GENERAL MEETING
Held on Monday, 24th April, 1893.

T. CHATFEILD CLARKE (VICE-PRESIDENT) IN THE CHAIR.

The discussion on the Paper read by Mr. TOM BRIGHT at the last Meeting, on "Underwoods: their Growth and Utilisation," was resumed by

Mr. DANIEL WATNEY (Fellow), who said he thought the Institution was very much indebted to Mr. BRIGHT for his Paper; but, feeling as he did that when a Paper was added to the "Transactions" it bore to some extent the stamp of the authority of the Institution, he would like to add a few words to what had been said.

The term "underwoods" was not very clearly defined, except in one or two cases. It was well to bear in mind that Timber was *real* property, and Underwood was *personal* property. Timber was subject to succession duty, and Underwood to probate duty. There were only three Acts of Parliament, he believed, which bore on the question of underwoods. The first was what was commonly called the Sylva Cœdua Act, passed in 1371, *i.e.*, 45 Edward III., chapter 3. It defined the tithes on timber and underwood. No tithes were to be taken on timber springing from stools of twenty years' growth, it then having become great wood (*gros bois*) within the meaning of the Statute.

The second Act was 43 Elizabeth, chapter 2, the old well-known Act "for the Relief of the Poor." That Act said that Saleable Underwoods were to be charged to the relief of the poor. There had been a great deal of difference of

opinion as to the meaning of the phrase, and several actions at law had been brought on the subject. A case was settled some time ago in which some persons had a right of estover on some land which bore underwood, and there it was held that the underwood growing on it was not *saleable underwood*, because it was subject to such rights.

The next Act was the 37th and 38th Victoria, chapter 54, by Sections 3, 4, and 5 of which, Woodland (*i.e.*, land growing timber) was to be rated at its unimproved value, having regard to the adjoining land. But the Assessment Committee might determine whether the lands should be assessed at their rateable value as saleable underwoods, or on this principle, which the Act first brought into existence. Then, Section 6 said that land was to be charged with the rights of sporting. That was the first time that land was ever charged with these rights, which he thought might, on an average, be valued, anywhere within 100 miles of London, at 1s. an acre on woodlands; that was to say, on woods and underwood, because, without the cover which underwood afforded, there was no shooting, or very little. Those were the three Acts which, as far as he could find out, regulated the assessment of woodlands.

With reference to the definition of underwoods, he found in an old book, published in 1607, which was well worthy of study, and which many present, no doubt, knew perfectly well, namely, "Cowel's Interpreter," that "underwood was " defined as 'Wood under 20 years' growth—Coppice wood, " otherwise called in Law-French *sub-bois*.'" In a Judgment given by Judge BAILEY, in the case of *Rex v. The Inhabitants of Ferrybridge*, underwood was defined in these words, which he (Mr. WATNEY) thought were well worth quoting:—"Generally speaking, the term 'underwood' is applied to " a species of wood which grows expeditiously and sends " out many shoots from one stool, the root remaining perfect

“ from which the shoots are cut, and producing new shoots, “ and so yielding a succession of profits.” And Judge LITLEDALE, in the case of *Regina v. The Inhabitants of Narberth North*, said :—“ This Statute ” (he supposed the learned Judge was referring to the Statute of Elizabeth) “ must, therefore, be taken to mean underwoods cut down “ for sale at regular and calculable periods.”

The first point that struck him in the Paper was where the author quoted the report of the Committee on Forestry appointed by the House of Commons in 1885-7, in which the Committee seemed distinctly to recognise the fact that a more generally economical and skilful system of management was wanted. It was certainly the exception and not the rule to find woodlands properly managed. He had always held, and he still maintained, that well-managed woodland was profitable, and that badly-managed woodland did not pay at all.

The author, in his Paper, said that the price of underwood had depreciated, but he did not give the reason, which would have been more to the point. Hop poles were, he thought, dearer now than they were three or four years ago ; but the principal cause of the fall in value of underwood was, in his opinion, the labour question. He had quite recently been told of the case of a large firm of timber merchants in the south of England who stated that, whereas, formerly, they could get plenty of labour for cutting timber, this year the whole number of men they could muster was four, instead of six times that number, who used to be available. He thought it was the labour question and the difficulty of obtaining labourers able to do the work which had, to a great extent, reduced the price realised for underwood.

He confessed he could not quite follow the table given in the Paper, for he could hardly believe that the *same* under-

wood which in 1877 fetched £34 5s. per acre, would only realise £5 15s. in 1887—ten years after. He thought this required some further explanation. In another case—the last on the list—the growth in 1874 realised £30 5s. per acre, and in 1885—eleven years after—only produced £12. He should be glad to have from the author some further information on this point.

He could not agree with the author when he said that “The poles which command the highest values are larch, Spanish chestnut, ash, red willow, and alder.” He (Mr. WATNEY) would have put ash before Spanish chestnut, and he did not quite understand why red willow and alder should be put in at all, as they were soft woods, and, in his (Mr. WATNEY’S) experience, were not often used for poles; although he remembered a case in Kent, some years ago, where a friend of his who had a plantation of Italian poplar, 14 feet or 16 feet high, said they made the best hop poles that were to be got on the estate. He could not understand it; but his friend told him that, when once they were well *creosoted*, these poles lasted as long as any other; but they were, nevertheless, very expensive poles in the first place on account of the large amount of creosote they absorbed.

The author of the Paper said, and said very truly, that no hard-and-fast line was to be drawn with regard to the management of woodland. Everything depended on the fact that the woods varied very much in different parts and required totally different treatment. In some parts oak would grow very freely, and in another part it was stunted, as it got down to gravel or stone, or some soil that did not suit it. But he never before heard it stated, and he could not agree with it, that “Underwoods
“are generally expected to continue improving until about
“the 50th year, to remain stationary from the 50th to the
“70th year, and afterwards to decrease in value.” Many

woods in parts of the Old Forest, which the author said he knew so well, viz., the wealds of Kent, Surrey, and Sussex, had, he was sure, not been planted up within the last 100 years, and he did not know that they had diminished in value. He might be wrong, but, judging from his own experience, woods did not diminish in value unless from such causes as rabbits, or overshadowing by timber, or something of that kind.

He thought that the third plan mentioned in the Paper, viz., "a limited number of oak trees being grown with the "underwood, each receiving equal attention," was the best and the most usual. Where there was a good demand for hop poles, and the land had been regularly planted for underwood in hop districts, and realised anything like £50 or £60 per acre at 10 years' growth, a man would be foolish if he attempted to grow timber among the underwood. Mr. BUCK mentioned the other night a case of £65 an acre, and no one under such circumstances would grow anything with the underwood, but where underwood realised from £5 to £10 an acre it would do no harm whatever to grow a certain number of trees, though it was impossible to define the number. It was easy to see, on going through any particular wood, how it should be treated, but it was impossible to lay down any rules, on an occasion like the present, as to how every kind of wood should be managed, because no two woods could be dealt with alike.

He observed that Mr. BRIGHT advocated the leaving of one standard per acre for each year of growth of underwood; but his (Mr. WATNEY'S) experience had been different. If he could find twenty he would leave them, and would cut out the worst afterwards; but he would always leave as many as possible, and send the woodman round after, as soon as the timber was cut, to correct whatever was wrong. It was easy to cut down superfluous trees

afterwards, and it made no difference in the sale of the underwood.

Dealing with this third class, the author of the Paper said, "Among the species of underwood which thrive under this system may be mentioned Spanish chestnut, ash, hazel, oak, beech, and maple," thus leaving out that very important underwood plant, the birch. The birch made uncommonly good hoops. It was a very useful wood, and, he thought, if the author would allow him to say so, that the paragraph would be improved by the addition of the word "birch."

He did not profess to know all about woodlands, though he had had a good deal of experience, but, when the author of the Paper spoke of *dog wood* as being a wood used in the manufacture of gunpowder, he must say it seemed to him that dog wood was such a slow-growing shrub that it would be almost useless for any purpose except for faggots or for making, as he believed it did, excellent skewers. He was told that it also made the very best crayon charcoal for artists, but as commercial charcoal for gunpowder, he thought it would be of very little value.

Some speakers on the last occasion agreed with the author in recommending that a certain amount of woodland should be let with farms, but one paragraph of the Paper contained the words, "Forestry and farming are best apart," and with this he entirely and cordially agreed. His rule was never to let fenced woods. If there was any hedgerow underwood and unfenced wood, let the tenant have them, but never let fenced wood. Tenants, as a rule, had no idea of reserving the tellars or of allowing a succession of trees to grow. They cleared the ground and cut the underwood without giving the landlord or the agent notice; but his plan was, as he had said before, to reserve all "fenced woods." If the woods were on a farm, and the landlord

was cutting a portion, it was well always to give the tenant the first offer, but it was never advisable, in his opinion, to let them with the farm.

He should be very glad if, in the course of this discussion, some gentleman present would tell the Meeting what the profit was, or, rather, what the returns were, from what he called the old-fashioned woodland, when properly managed, and where the badly-formed and badly-growing trees were thinned out. It would be very instructive to know what the returns from any given woodland had been for, say, the last 40 years. He thought it would be found that timber returned something like £4, £5, or £6 an acre, and quite as much as the underwood if properly managed. If it were thinned judiciously, so as not to interfere with the growth of the underwood, or, rather, the stools of the underwood, it would be found that the timber and underwood came out very near together, and that there would be a very much better return from ordinary wood than from growing either underwood or timber alone, but in his opinion the trees under this system should not be allowed to remain after they contained from 25 to 30 feet.

He remembered a conversation with Mr. JOHN CLUTTON, some time ago, apropos of woodland, when he (Mr. WATNEY) asked, "Mr. CLUTTON, if you could have foreseen what was going to happen, would you have destroyed and grubbed as many thousands of acres of woodland as you have done?" He said, "No, I most certainly would not—I should rather have planted"; and he (Mr. WATNEY) thought if landowners and agents had planted a little more in years gone by, instead of grubbing everything that could be grubbed, the country would now be much better off than it was.

Mr. H. M. COBB (Fellow) said that he rose for the

purpose of seeking information only. He appreciated Mr. BRIGHT's Paper very much, but he missed one thing at the end which he would suggest to him would be a useful addition, namely, an appendix giving the various kinds of wood, their uses, and the kinds of soil to which they were best adapted. Mr. WATNEY had placed ash above chestnut in value, but in Kent they found that chestnut made the better poles in the ordinary way; but the fashion of hop poles changed from time to time. A few years ago nothing but small poles would sell, and big wood depreciated very much in value. Now the large poles, fit for wire work, were in great demand. When he read the table in Mr. BRIGHT's Paper he had tried to find out what depreciation had occurred within his own district in twenty-one years. He found that on one estate, for the first seven years from 1872 about 100 acres, per annum, made £21 15s.; for the second seven years £14 13s. 6d., and for the last seven years £9 7s. 6d. He appreciated what Mr. WATNEY said as to the labour question having much to do with it, but his experience was that underwood was recovering itself, though very slowly.

One wood was not mentioned in the Paper, of which, however, there was not much grown in Kent, namely, the Norway maple, which rabbits did not care much for, and which was found to do well on poor chalk lands where it was difficult to get any other wood to grow.

With reference to the question of tenant-farming and wood-growing, he might mention that he had to go, as valuer, over a farm where the tenant had lost £1,000 by taking the underwood. He took it in the time of high prices—1878,—and his tenancy expired about two years ago. That expenditure would, he thought, have been far better made on his farm than on the wood. He would grow more wood than he could use in the year, and it

would be better to have bought his hop poles, and not to have been troubled with the by-products, and so incur loss in the end.

The author of the Paper said that the higher the value of the underwood the greater was the profit to the buyer. This his own experience confirmed. He remembered selling a piece of wood, ten years old, at £62 per acre, and ten or eleven years after he sold the same piece of wood for £31 10s. The man who bought at £62 made a good profit, but the man who bought at £31 lost by his bargain.

He was very interested to hear what Mr. WATNEY said about underwood being deteriorated in the course of a certain number of years. He should like the author's opinion as to the filling up of woods, and in what districts it was better done by planting or by layers. He thought planting, where practicable, should be done in the year that the underwood was cut, in free-growing districts, rather than in the second year, so as to give the plant a better chance of getting on. As against that there would be a little more worrying of the tops by the wind, but that was not so serious as the new plant being covered by the underwood growing round.

With regard to the income derived from wood, he was that morning talking to a landed proprietor, in a poor district, whom he questioned on the point, and who said that, as nearly as he could make out, for 20 years it varied from 3s. 4d. an acre to 6s. 8d. an acre. It was a district close to the marsh, and the figures were exclusive of the under-timber. He thought it was the custom in that district to leave rather more timber or tellars than was usual in [his (Mr. COBB's) district.

Mr. G. WEBB (Fellow) said that the few remarks he

would make on Mr. BRIGHT's excellent Paper would apply principally to East and West Kent and the Weald.

In the case of land devoted exclusively to the growing of underwood, he quite agreed that in the best plantations of ash and chestnut it was better not to allow timber to grow. This description of wood always paid well, although from 1885 to 1890 the decrease in value was very great ; good woods, which at twelve years' growth had fetched £40 to £45 per acre, falling to £15 or £18. This was owing to the bad state of the hop trade.

Where trees were grown in underwood, the latter being a secondary consideration, he thought there was no doubt that on heavy clay land, where beech and oak prevailed, it paid best now to consider the oak timber, although 40 years ago, when both beech and oak coppice poles sold well, a contrary opinion prevailed.

Quite a change had come over the demand for 10 or 12 foot hop poles. Oak and beech underwood, which formerly fetched £10 per acre at 13 or 14 years, it was now difficult to sell, even at £4 per acre. Therefore, during the last 30 years, the growth of oak timber in Kent had been encouraged by saving as many good tellurs as could be found.

This month as much as £15 per acre had been made of the oak where the underwood was cut, and this still left a timber plant to stand over for another 13 years, estimated to have a present value of £35 per acre.

One lot of 3 acres in another wood fetched £20 per acre, but, as the trees were not so large as in the other fall, he should say that those left were not worth more than £25 to £30 per acre ; but he could not say much for the underwood, as that fetched, after standing for 14 years, only from about £2 to £4 per acre.

However, in all open spaces (and there are certain to be

some) it was customary to plant chestnut, and this in the next fall would much help the underwood value.

The price of bark this year was lower than he had ever known it (£3 5s. 0d. to £3 10s. 0d. per ton). He noted that Mr. BRIGHT named about 40s. for stripping and binding, but in his district it was usual to pay about 30s. per ton.

Dealing with the third class, where oak timber and underwood are both allowed to grow, each receiving equal attention, he thought, on fairly good woodland of an average soil, there was no reason why timber and underwood should not both be grown at a profit; of course, leaving only about 10 or 15 tellars per acre, but it was often difficult even to get this number.

It was now necessary to consider whether good underwood that had been cut at 11 or 12 years' growth should not stand over two years longer, for a fresh plan was now being generally used in poling hops; growers were now very generally adopting what is called "telegraph," or wire work which required much stouter poles.

The consequence was that underwood left to 14 years would realise good prices, but one must consider how long it was possible to let the wood stand without detriment to the stub. He was inclined to think 14 or 15 years must be the limit.

Taking woodland of this description capable of growing both timber and underwood, the following table shewed the result of the timber growth and value :—

RESULT OF THREE FALLS OF TIMBER.

ACREAGE 3A. 0R. 20P.

1870.—80 trees and 9 tellars measured

665 feet, valued at - - - £84 5 0

1882.—89 Trees and 21 tellars, measured	
1,070 feet, valued at - -	£148 16 0
Giving £5 per cent. profit, Compound	
Interest, and £21 per acre.	
Of these, 40 trees were sold, to give	
more room to the others, realising	52 16 0
Leaving standing a value of - -	<u>£96 0 0</u>
This amount, at this year's prices,	
would be worth £79.	

1892.—46 trees and 16 tellars, measured	
934 feet, and valued at - -	<u>£116 0 0</u>

Which gives £4 per cent., Compound Interest.

He found that the filling up in this description of wood paid well, and the better the plants, in reason, the better they paid. He had noticed in many woods that sufficient care was not taken to bill-brush with a billhook round the young plants; this should always be done every 2 years to give more air. In planting he had found a great saving in using the Scotch planting spade, price 12s. 6d. He used to pay for holing, on an average of soils, 2s. 6d. per 100, but he now paid 1s. 1d. He was rather opposed to the plan at first, as he was afraid it would be impossible to get rid of the roots of the adjoining stubs, but hitherto the plants had done well, and a saving was effected of £50 in one lot of woods last year. The planting was done by the day, and cost 9d. to 1s. per 100.

He quite agreed with what had been said about ground game. He had known good ash woods fetch £35 to £40 per acre, and the same woods in the next fall (12 years' growth), owing to rabbits, sold for only £8 per acre: and even that was not the worst of it, for the stock got killed, and it would take 30 years at least to restore the stock to the same value.

In filling up woods (400 to 500 plants was about the average) he now used the Norway maple as well as chestnut and ash, as he found it a free growing wood, especially for light chalky soils.

Mr. J. R. EVE (Fellow) said that Mr. BRIGHT's name would always be associated in his mind with the fact of his being able to make what might be considered a very dry subject intrinsically, extremely interesting. His own remarks would apply principally to the second and third classes of underwood to which Mr. BRIGHT alluded. Land-owners in Bedfordshire, or in the south part of Hertfordshire, were not fortunate enough to have any demand for hop poles, or to sell ten years' underwood for £40 or £50 or £60 an acre. The custom in that district was to grow principally oak timber with underwood, and to rely on getting an income from both; but as the Paper dealt specially with underwood, he would confine his remarks mainly to that side of the question. There was, no doubt, a great deal in the management of underwood. One could not fail to see how many woods were being ruined by the bad management of the agent or those beneath him, shewn, perhaps more than in any other way, by want of proper care of the ditches. There were very few kinds of underwood that required much water, and if it were allowed to become stagnant in its midst there were certain to be patches where the underwood failed to grow well. Again, nothing shewed so much care as when the rides were well kept and levelled. The hedges must also be kept good to prevent intrusion, and there should be everywhere evidence of careful supervision.

The last speaker seemed to have met with difficulties which Mr. COBB had not, apparently, encountered, in getting the underwood cleared in proper time. He himself had found this to be almost impossible, whether the underwood

were disposed of by auction or privately. He might call attention to one important point in the management of underwood, or, rather, the disposal of it. In many districts it was the custom to sell underwood standing; but, in his opinion, there was nothing more prejudicial to a wood. Men were employed who were unaccustomed to the work, and their object was to get all they could, and as quickly as possible. There were no proper tellars left, and the wood was often cut a foot higher than it should be above the stools, thus affecting seriously the produce of future cuttings. He had, not long ago, to report on woods in which everything was cut a foot or a foot and a half above the stool, as had evidently been the practice in previous times. One could hardly blame the last man for following the example of his predecessors, though he should, perhaps, have known better.

From his experience of sales that he had conducted for years past, and also through the kindness of friends in his neighbourhood, he had got together some figures with regard to the price of underwood. He had not gone so far as Mr. WEBB by shewing what the timber realised as well—he had no evidence of that—but as far as the underwood went, which was especially the subject of the Paper, a prominent auctioneer in Hertfordshire had told him that the average price was £6 13s. 4d. an acre, and another in the same district had sold it, standing, at £4 10s. an acre, taking it all round. On one estate with which he had been connected for 10 years, but which had certainly been previously managed in a very inefficient manner, the result of the sale of the underwood was only £2 10s. an acre for that period, and in another large district it was £3 10s. an acre. On one large estate in the north of Bedfordshire, especially where the woods were badly situated, although they were well managed, it was found impossible to get a

purchaser at an auction sale, and the result was that private labour was employed to faggot and pea-stick, and so on. Hop-poles were not grown, for there were no hops in the neighbourhood, and the result had been that £4 an acre was realised over a series of years. On another property in Bedfordshire, of which the agent was kind enough to give him particulars, the woods were managed well for many years, and, it being a residential estate, they were not planted only on the bad pieces of land, as was so often the case. It was too frequently done as our forefathers did—such land only was planted as was likely to be unprofitable for the growth of corn, therefore it was not fair to compare the yield from underwood on such land with that from corn on better land. In Bedfordshire and Hertfordshire, generally, the worst part of the land was planted; but on the estate to which he referred this plan was not adhered to, and good pieces of land were planted for ornamental purposes. The result shewed an average of £7 15s. an acre over a series of years. He had known on that estate the highest price which, in his experience, had ever been realised in Bedfordshire, namely, £32 an acre.

The rating of woods was referred to by Mr. WATNEY. He (Mr. EVE) assessed for several unions, and it was astonishing how little, in his experience (if he acted rightly), the Rating Act of 1874 affected the rateability. It was generally found that the value of the adjoining land, in its unimproved state, would be less than the value of the underwood, rather proving, as he had said before, that underwoods in this country were principally planted upon inferior land.

It was certain, as Mr. BRIGHT had said, that there could not be too much attention paid to underwood; in fact, he (Mr. EVE) did not know any department of the duties of a land agent to which too much attention could be paid.

Mr. J. WEALL (Fellow) said he had had a good deal to do with woods; not in those favoured parts of the country where they realised anything like £60 an acre, but more especially in Hertfordshire and a part of Bucks. Most of the woods he had to deal with were on clay soils, and consisted of oak and coppice, such as Mr. WATNEY had referred to, with underwood. There were two large woods on an estate of which he had had the management for upwards of 20 years, covering, together, about 600 acres. They were on stiff, clay land, and were College property. The woods were let, formerly, to the lessee of the adjoining estate, and when the lease expired they were in a somewhat neglected condition. The lessee had allowed the oaks to grow from the stools, which eventually became the subject of an interesting arbitration.

He could confirm what Mr. EVE said about the wetness of the soil. The soil he (Mr. WEALL) referred to was very tenacious, and after the land was properly attended to the underwood improved considerably. In the first few years a great number of the rough oaks were cut out, so that it was not fair to take those few years into account; but for the last 14 years there had been annual sales of underwood and timber, which was sold standing. He might say, in passing, that he did not quite agree with what Mr. EVE had said against the practice of selling underwood standing. People in that neighbourhood cut it about as low as it could be cut. It was cut every ten years, and the timber was thinned in the spring. The prices realised for the sales of underwood averaged about £214, and for the sales of timber £291, being equal to about 17s. per annum per acre. The rates and woodman's wages were not taken into account, and for these there would be a deduction; but, on the other hand, the shooting must be taken into account, which would more than cover the expense of

rates and the woodman's wages. It was contended that the damage done by the rabbits was greater than the rent for the shooting; but he did not think that was the case. On that particular estate it was the custom for some years to grub up and lay down to grass certain portions of the wood, but the expense of grubbing up was heavy, and the rent was not so much now as was formerly obtained for the underwood, so that the change was not at all a successful one, though the adjoining land was let at 30s. to 40s. an acre. He had had experience in other parts, in beech districts, where all the bigger beech trees were cut down at intervals of ten years. The return was something like 15s. an acre on one estate, and he did not see why it should not go on, practically, for ever at that rate. That paid, he thought, better than the adjoining farm lands.

Mr. A. VERNON (Fellow) said he had listened with great interest to the discussion, as well as to the Paper, and it seemed to him that great advantage accrued, both to the Institution and the Members, from the threshing out of a subject such as this.

The true principles of the skilful management of woodlands and plantations were founded, he thought, on one of the earliest lessons taught in one of the oldest of books, namely, that nothing was to be done without labour, and that the result was invariably commensurate with the extent of that labour. He feared that the subject of woodlands was one of difficulty, for two reasons: it was difficult to get an owner to take an interest in them except with a view to the picturesque, or as contributing to sport; and, on the other hand, it often happened that agents did not find prompt remuneration from the supervision of woodlands, and, consequently, sometimes neglected the work from personal motives. If owners and agents could be induced to attend

more to woodlands a great improvement might be effected, and that end would, he thought, be greatly furthered by a discussion such as the present one, when facts were elicited which shewed the very large profits to be obtained from proper cultivation. He was glad to hear from the last speaker that he was getting a fair remuneration from under-wood, where the rent of the land adjoining was 30s. to 40s. an acre; but in many districts he knew of farm land was yielding much less than this, while owners were getting a fair return on woodland plantations adjoining.

He had in his office records of the beech-wood district, with which he was particularly acquainted, extending over 60 or 70 years, and it was possible to trace from these exactly what had happened. During the last 30 years the beech woods on some carefully-managed estates had altogether produced an average return of £2 an acre per annum, while the adjoining lands were now letting at something under £1. He knew of many cases in which woodland which had received care and attention was now paying more than double what the most careful management of arable lands realised.

With regard to the combination of timber and under-wood, he did not find a satisfactory result in many a district. He did not believe that woodlands could serve two masters, and any attempt to get the maximum amount of large stately forest trees and a full crop of underwood would end in disappointment—they would quarrel with each other, and one must decide what proportion of each to grow in order to gain the most advantage. It was recommended, he thought, in the Paper that twelve standards to the acre should be reserved where the underwood was cut every tenth year. That was the old idea; but the proportion must be decided by the nature of the crop it was proposed to grow. In the Maidenhead district of Berks underwood (perhaps not very well managed, and subject to the terrible

trouble of the rabbits) had been realising about £4 10s. an acre for the last few years, and the value of the oak timber was about £25 or £30 an acre; but, even allowing some return upon that, it was clear that the underwood was not profitably cultivated.

He thought that land agents could not possibly turn their attention to any more important question, whether from a national or a landowner's point of view, than that of the proper management of underwood and trees. He believed it involved more conscientious hard work on the part of the landlord, or his agent, than any other detail of the management of an estate, and if successfully carried out would insure very valuable results.

There were one or two things essential to the management of underwoods or woods: first, they must be properly protected by a fence against the ravages of four-footed and two-footed intruders; they must be properly kept free from rubbish and weeds, and they must be properly managed. It was a matter that required all the skill that a well-trained land-agent could bring to bear upon it. Landlords must realise that timber required care and skill, and land-agents must be brought to see that it required the exertion of proper care and attention to bring about the results which were most desirable for the estate, for the landowner, and for the land-agent himself.

Mr. E. W. HUDSON (Fellow) said he thought it was suggested in the former Paper on this subject that larch was going out of use in parts of Sussex; he believed, owing to its premature decay. He should like to know if the 20 years, which had since elapsed, had made any difference there as to that class of tree.

A good deal had been said about the necessity of screening the young woods from the sun on the south side and the gales on the stormy side; but he had not heard any mention

of the tree about which he asked a question on the last occasion, namely, the hornbeam—was it much planted now as coppice for the purpose of screening the new growths? It was successfully employed when young for this object in cultivated grounds; and for standards there were several uses when felled.

Mr. BRIGHT, in reply, said that, in acknowledging the vote of thanks which had been so kindly accorded him, he must express his pleasure at finding that the subject of his Paper (which was a very dry one) had proved of interest to the Members of the Institution.

In confining his remarks to certain questions left open at the Meeting in 1874, he had of necessity had to pass over many of the more interesting, and, it might be, more important features of his subject. Many of those features, he had been pleased to find, had been embodied in the discussion, and although the questions, or some of them, that had arisen, were outside the scope of his Paper, he proposed, with the permission of the Meeting, to add some remarks by way of reply to them.

In order to render his reply as explicit as possible, he might be pardoned for introducing a certain amount of practical detail. Although it might be neither new nor useful to the older Members, it might prove of service to an important and growing body in the profession—he referred to the Junior Members.

With regard to his definition of underwood, Mr. WATNEY had pointed out that it represented coppice wood under 20 years' growth; Mr. BUCK said, at the previous Meeting, that standards of 28 years' growth were deemed a part of the underwood in Monmouthshire, while Mr. RIGG stated that in some parts of Sussex seedling oaks or tellars did not form a part of the underwood let to tenants.

Now, those various cases formed a pretty good example

of the conflicting nature of local customs, and it might be thought that a definition which would exclude in one case, and include in the other, must be an extraordinary one. The custom referred to by Mr. RIGG was not unknown to him, and he endeavoured, in formulating his definition, to make it comprehend that custom. His acquaintance with the custom in Sussex enabled him to say that it generally formed a subordinate custom, *i.e.*, it was subject to another usage which was overruling and more general. For instance, in selling a plot of underwood in the neighbourhood where that custom held good, it would be found necessary to stipulate for the reservation of a certain number of tellars, which tellars were distinguished by being marked with red paint. Unless they were thus marked they were invariably cleared with the underwood. The fact of its being necessary to put those distinguishing marks on the tellars appeared to him to afford strong presumptive evidence that they would otherwise be deemed a part of the underwood.

With regard to the Monmouthshire custom, to treat black poles as a part of the underwood until after the second cutting, or 28 years' growth, he had found from careful observation that standards of that age very seldom exceeded a quarter-girt limit of six inches. He would submit, therefore, that the fact of standards being treated as underwood until that period, *i.e.*, 28 years' growth, and subsequently as timber, confirmed, in a remarkable manner, the practical definition which he had given in his Paper. The definition, of course, was only a practical one. He did not mean to claim that it was a strictly legal one as well. The need of a practical definition might be gathered from the fact that, upon consulting a recent edition of the standard work upon all matters of forestry, he found the meaning of the word "underwood" given as follows:—"By the term "underwood is implied bushes of a woody habit growing "under timber trees. It may consist of two kinds, perfect

“plants of a naturally low and branchy character, as the
 “privet, rhododendron, holly, &c., or shoots issuing from
 “the stocks of trees which may have been cut down in
 “thinning, as in the case of neglected coppice.”

He hoped the present discussion had been sufficient to prove that underwood consisted of other produce than such shrubs as privet, or the shoots of neglected coppice. The definition above referred to was drawn from experience in Scotland. Now, in all matters relating to coniferous plants, we might well look to the Scotch for information, but, on the subject now under discussion, he took it as an undisputed fact (and it was one upon which he could dwell with great satisfaction) that for a knowledge of the best systems of underwood culture recourse must be had to the estate agents and woodreeves of districts far south of the Tweed.

It had been remarked by Mr. BUCK that timber was all that which was not capable of being felled by a tenant for life; but he took it that, since the decision in the well-known case of *Dashwood v. Magniac*, the tenant for life was entitled to cut not only the underwood, but, under certain conditions, to fell timber also on an estate. That distinction, therefore, between underwood and timber was not a reliable one at the present time.

Certain speakers had pointed out the impracticability of growing timber and underwood together. At first sight this statement appeared to be in opposition to the views expressed in his Paper; but, presuming, as he did, that by timber was meant trees which were allowed to arrive at the stage of maturity, it was very gratifying to him to find that, in reality, there was no difference on that point. To reconcile these statements, he might be permitted to refer to the three-fold division adopted in his Paper, and which might be rendered as follows:—(1) The system of growing underwood only, and which, with favourable soils and situations, was undoubtedly capable of yielding the highest returns. (2)

The system of allowing timber to mature and ultimately destroy the underwood. (3) The more useful system of growing a number of standards with the underwood, and which, as he had shown, might be adopted where underwood alone would not realise £10 an acre at 10 years' growth. In deciding which of the three systems was the best to adopt in any particular case, careful consideration would, of course, be given to peculiarities of soil, situation, and local demand.

With regard to Mr. OAKLEY'S and Mr. WATNEY'S remarks as to the great variations shewn in the statement recording the results of the sale of ash and chestnut underwood, he might say that the sums given in each case substantially represented (as the boundaries of the plots were not precisely the same at each clearance) the amounts realised by the same plot of woodland at its different cuttings. The difference in the sums realised was certainly remarkable; but that difference might be almost entirely accounted for by the selling values of the hop-poles at the respective periods. He knew of a case in point, that of a plot of woodland, the poles cut from which, in 1874, realised £42 15s. 10d. while the poles, practically equal in quantity and quality, from the same plot, in 1885, only brought the dealer £14 5s., the cost of labour being in both instances practically the same and included in the sums stated. Now, Mr. WATNEY had remarked that the difference in these sums resulted rather from the difficulty of obtaining labour than from the value of the hop-poles. If that were the case, he was at a loss to understand why underwood, which, in 1885, was worth only £11 odd, should be worth, in November 1892, about £35. He submitted that the difference was to be accounted for almost entirely by the value of the hop-poles at the two different periods. He need scarcely add that, amongst other things, these figures proved the inadvisability of allowing the sum obtained at any one cutting to form the basis of the future values of such underwoods.

With reference to the age at which underwood stools become exhausted, the periods mentioned in the Paper were intended to apply to plantation underwood of ash or chestnut, on the Wealden formation. They were almost entirely composed of stool shoots, and experience had shewn that after about the seventieth year the power of reproduction of such stools gradually diminished. The soil would probably continue producing indigenous plants, such as oak, but ash and chestnut plants were, as a rule, artificial introductions in the Weald. Mr. BUCK referred to a case in which ash had been planted on one part of a plot and chestnut on another, and where the chestnut had grown much faster than the ash. That might probably be accounted for by the soil proving more suitable for the faster growing plant. He agreed with Mr. BUCK that ash and chestnut should not be planted alternately, for the reason that a soil which was sufficiently stiff to grow good ash was generally too heavy to produce good chestnut.

With reference to the period mentioned in his Paper for the growth of poles suitable for hurdles, Mr. OAKLEY remarked that the poles must be very slow-growing to require twenty to forty years for that purpose. By the term "hurdles" he meant to imply split bar hurdles made with heads and braces; but probably Mr. OAKLEY was thinking of wattled or woven hurdles. He had not found a period of twenty years too long for growing poles suitable for the former, but for the latter from seven to twelve years would generally be found sufficient.

It had been asked by Mr. RIGG what course he (Mr. BRIGHT) would recommend for the planting of an enclosure on Sussex clay-land with underwood. To enable him to deal specifically with such a question, the situation, accessibility, and aspect of the enclosure, the contour and condition of the soil, the nature of the local demand and limit of expenditure were, of course, all matters requiring careful

consideration; and of these he had practically no means of judging.

Speaking generally, he would unhesitatingly say that, for a permanent underwood plantation, the better course would be to trench the land, if the limit of expenditure would permit; otherwise it might be ploughed, assuming, of course, that the substratum had not been indurated. Surface drains should be taken out where necessary, 12 or 18 feet apart, about 2 feet wide at top, 8 inches at bottom, and 2 feet 6 inches deep, with mains proportionately larger. This work might be put in hand at once, to enable the stagnant water to get away from the soil. In October it would be necessary to carefully pit-plant the heaviest soil with strong ash, and the lighter soil with chestnut plants from 3 to 4 feet high and 6 feet apart. In the following spring the land might be hand-hoed and rows of larch, 1 to 1½ feet high, planted between, the latter acting as nurses, and materially contributing towards defraying the expense of formation. In the following autumn the ground should be hand-hoed again, and failures made good. If the renovation of the soil were of importance, the whole might be planted with larch, provided, of course, that the soil in question would grow larch successfully. For some reason or another larch plants did not always thrive on the Sussex, or Wealden, clay, but as to this point the appearance of the larches growing in the vicinity would afford a pretty sure indication whether the plot in question would grow them successfully or not.

As to the replenishment of old woodland, if the stools would produce, say, half a crop, he was in favour of gradually filling up vacancies with ash or chestnut, or, in very light soils, with Norway maple, which had been mentioned by several speakers. He might say, with regard to the latter plant, that it was by quite an inadvertent omission on his part that it was not mentioned in his

Paper. These could be pit-planted in the autumn following the clearance, not less than 6 feet apart, and at the next fall cut off about 6 inches above the surface, old stools near being grubbed and other plants inserted to fill up. The effect was a gradual improvement of the woodland without appreciable loss of the produce at any one time.

In reply to Mr. HUDSON and another speaker, he might supplement what THE PRESIDENT said at the last Meeting by adding that the demand for hornbeam had increased slightly during the last few years, it having been found peculiarly adapted to making the lasts used by bootmakers. The advantage which it possessed over beech for that purpose was, that after the withdrawal of the nails the holes made by them filled up. It was seldom planted for underwood, though occasionally it was found growing with beech. It made excellent charcoal, but otherwise it had, so far as he was aware, no special feature to recommend its cultivation.

With reference to the volume of growth of different kinds of timber, the tables he had given shewed the growth attained by oak standards in Kent.

Having regard to the complete statistics which the Germans possessed of the growth of all kinds of timber in their own country, if his Paper had but the effect of inducing some of those having charge of woodlands in this country to take in hand the collection of similar information, it would have served at least one useful purpose.

In conclusion, he desired to express his deep sense of the honour conferred upon him, a comparative stranger, in being permitted to prepare and read a Paper before the Members of the Institution. It only remained, therefore, for him to tender his most hearty thanks for the very kind and, he might well say, the indulgent manner in which the Members present had been pleased to receive his Paper.

The Meeting then adjourned.

RECENT EXPERIENCE IN SEWAGE FILTRATION CONSIDERED IN RELATION TO RIVER POLLUTION.

By RICHARD F. GRANTHAM (ASSOCIATE).

*At the Ordinary General Meeting of THE SURVEYORS' INSTITUTION,
Monday, April 24th, 1893.*

T. CHATFEILD CLARKE (VICE-PRESIDENT) IN THE CHAIR.

It is now nearly eight years since the subject of sewage treatment was discussed at this Institution.

Since that time a large number of towns have established either some chemical process, such as treatment with ferozone, and filtration through polarite; or with alumino ferric; or, as at Mortlake, with lime, sulphate of alumina, and carbon, and filtration through carbon, sand, and gravel; or with lime and subsequent irrigation on land; or irrigation farms coupled with intermittent downward filtration. The Municipality of Berlin has also lately completed the establishment of the largest aggregation yet known of farms for the disposal of the sewage of any one city, whilst the sewage of London is being mixed at the outfalls in the Thames with about four grains per gallon of lime and one grain per gallon of sulphate of iron, producing eventually over three and a half million tons of sludge per annum.

While much has been done, there is a large area of country in which pollution is still permitted, and a number

of villages and towns are suffering in consequence. "There are hundreds of towns and villages in these islands," said Sir CHARLES CAMERON, in his inaugural address to the Sanitary Congress last year, "which are still unprovided with proper arrangements for drainage and filth disposal, and which are dependent upon scant supplies of water, often of bad or inferior quality."

The evidence of the Medical Officers of Health before the Royal Commissioners on London Water Supply also testifies to much pollution from a large number of places and villages in the watersheds of the Thames above the intakes of the London Water Companies, and of the Lee above Hertford; and similar examinations of other river basins have revealed corresponding insanitary conditions.

And it is to be observed that pollution arises not only in places where no attempt has been made to deal with the sewage, but also from the effluents from chemical works and irrigation farms established for preventing it.

The discharge of sewage from privies and farmyards into stagnant ditches was complained of, on the ground that when floods occur the ditches are washed out and the foul matters are carried away into the nearest streams or rivers. Dr. FOSBROOKE also remarked upon the common practice, in districts situated upon the oolite formation, of discharging sewage down crevices or mines, at great risk to the purity of the underground water supply.

Where chemical treatment was in operation, the purification was in every case very imperfect, and Dr. TURNER remarked that the precipitation process at Wheathampstead affected the sewage so little that it did not take the colour of the blood of pigs out of it, and, as has just been pointed out, the effluents from irrigation farms (particularly where the subsoil was clay, and the land was low-lying and subject to flooding) were in many cases unsatisfactory. Dr. ASHBY,

however, praised the Abingdon Sewage Farm—part of which ($27\frac{1}{2}$ acres) was laid out for broad irrigation, and part ($6\frac{1}{2}$ acres) for intermittent downward filtration—for excellent management, and this, no doubt, is assisted by the system and the porous nature of the subsoil (oolitic gravel).

The way in which much pollution is caused, is familiar to most people. In many villages and small towns, instead of a proper system of sewerage, there are drains built of bricks or pipes or the two combined, imperfectly laid and jointed, at a shallow depth under the principal street, and moreover constructed originally for the different purpose of discharging storm water from the roads into the nearest stream. By degrees, imperfect connections are made to take off so much polluted slop water or overflow from cesspools as can be discharged at their shallow depth. These drains simply discharge the sewage into the nearest ditches or streams. In a letter to the *Times* of August 31 last, Mr. F. T. HORNIBLOW, who lives in a village in the Chipping Norton district, describes the evils attending the want of a system of sewerage there, and briefly summarises the consequences. Owners of premises had been allowed to “turn
“ in some instances what sewage matter they liked into the
“ surface water drain, which is not properly trapped, and at
“ intervals has iron gratings emitting abominable smells; and
“ the mode employed of ridding (or congregating) sewage
“ has been to dig cesspools in the public streets.” The results had been :—

“ I. A cesspool is allowed to spurt up its nauseous
“ fluid in the street, after a thunderstorm.

“ II. Cesspool No. 2 discharges its contents *ad libitum*
“ into newly erected premises, so that they
“ cannot be used.

“ III. A drinking well receives the whole of the
“ contents of a drain running across the road.”

Mr. J. HAMPDEN WALLER, J.P., from the same district, in a letter of the same date to the *Times*, corroborates this, and adds that "more than two-thirds of the sewage of "the place is permitted to drain into a little streamlet of "pure water passing through adjoining meadows, and "this is the sole source of supply for cows grazing there "whose milk is sold daily in the town and neighbourhood."

In the smaller towns and villages, the proposal for any scheme of sewerage and sometimes of waterworks is too frequently and successfully met with the strongest objections by the inhabitants. It is not long ago (in a town I had to do with where the death rate was high, where in former years cholera had raged, and where the people visibly suffered in health from the pollution at their doors) that at the Government inquiry into a proposed scheme of sewerage, the strongest opposition was offered by a large majority of the townspeople headed by the vicar and supported by the principal doctor. The scheme, however, has been carried out, and the opening of the old house-drains and cesspools revealed a frightful state of things. Long lengths of pipes choked full of deposit, and cesspools, within 3 or 4 feet of the back doors, brimful of the foulest sewage nearly level with the surface of the ground, abounded all through the town.

This is probably only a typical case. The conditions are scarcely suspected even by those living on the spot until they are literally unearthed.

The Pollution Act of 1876, Dr. ASHBY stated, was a dead letter, and Dr. FOSBROOKE, speaking of a polluted stream in Oxfordshire, which he had brought under the notice of the County Council, said that no steps had been taken to remedy the evil, and so far confirms Dr. ASHBY.

As regards pollution, no standard of purity by which to test the effluents now discharged into rivers and streams

has yet been agreed upon. That suggested by the Rivers Pollution Commissioners has not been acted upon, because it has been deemed too stringent for all circumstances. Dr. TURNER regards an effluent as sufficiently purified if it does not kill fish, stop up the stream, or create a nuisance.* Mr. WILLIS BUND has, however, suggested *injury* to fish as the standard, distinguishing between killing and injury, the latter opening out much wider considerations. He thought that a classified list of rivers, including those not containing fish, and those containing fish of various degrees of coarseness, should be prepared by the County Councils. In each class a minimum standard of purity should be agreed upon by the County Councils for their respective districts.

Practically, a distinction has come to be recognised between towns on the banks of the Thames, whose sewage is discharged into the tideway and below the intakes of the Water Companies, and those whose outfall sewers discharge above the intakes. Chiswick, Acton, Mortlake (including a number of towns and villages), Twickenham, and Kingston, have adopted chemical precipitation or filtration, or the two combined, while towns above have either adopted sewage irrigation farms, or are about to lay down precipitation works with subsequent filtration through land.

But the conflict of opinion between chemists as to the important question of the self-purifying power of rivers does not appear to be yet determined. On the one hand, the late Dr. TIDY in a Paper† read before the Chemical Society in 1880, concluded that "when sewage is discharged into running water, provided that primary dilution with pure water be sufficient, after the run of a few miles, the precise distance of travel being dependent on several conditions, the removal of the whole of the organic impurity is

* Transactions, Sanitary Institute, vol. x.

† "River Water."

“effected” “that whatever may be the actual cause of certain diseases, *i.e.*, whether germs or chemical poisons, the *materies morbi* which finds its way into the river at the sewage outfall is destroyed together with the organic impurity after a certain flow.” This view appears to be supported by Professor PETTENKOFER, when, in referring to the pollution of the River Iser by the discharge into it of the sewage of Munich, he expresses his conviction, derived from frequent observations, that the river flowing rapidly, and in large proportion to the volume of sewage, becomes purified at a distance below the sewage works. He declares that sewage may without hesitation be permitted to flow with a river if its volume be not more than one-fifteenth of that of the river water.

On the other hand,* Dr. PERCY FRANKLAND maintains, as the results of his observations, that the apparent purification is due to sedimentation, a process which can never guarantee the absence of danger. Neither does the experience of the Massachusetts State Board of Health bear out the conclusion of Professor PETTENKOFER, as regards the proportion of one-fifteenth of the volume of sewage to that of river water.

Thus the report† of that Board states that the facts of the higher death-rates from typhoid fever in the cities of Lawrence and Lowell, which derive their water from the River Merrimack, notwithstanding that the volume of sewage entering the river from cities higher up, is in the proportion of only one gallon to 600 gallons of river water, are the strongest grounds for concluding that the disease germs are able to pass, and do pass, from one city to the other in the water of this river.

Now, an inspection of any river some long distance below

* International Congress of Hygiene. London, 1891.

† Massachusetts State Board of Health. 22nd Annual Report.

the point at which sewage is being poured into it, will shew that evidences of pollution do, for the most part, disappear; but, apart from the question whether the water is to be ultimately drunk, the pollution at the outfall of a sewer should be prevented, even if it were conclusively proved that the rivers did possess the power of complete self-purification. And until chemists have determined the vital point, whether or not poisonous germs do pass down a river, we must endeavour to obtain, and to maintain, the highest possible standard of purity where the river below is used for domestic purposes.

The experience of the last few years, in dealing with sewage, has produced some degree of unanimity of opinion upon certain points where previously much was involved and uncertain, namely,—

1. The separation from the sewage of so much rain-water as falls upon the surfaces of roads and open spaces and, as much as possible, from roofs of buildings.

2. The filtration of sewage through some material, or, finally, through land after chemical treatment, according to the degree of purity required.

3. No one system of chemical precipitation, or irrigation, or filtration, is applicable to every case.

4. Profit is not to be expected from the utilisation of sewage.

At one time it was considered sufficient to allow the sewage merely to flow over the surface of land, or, if chemical treatment were adopted, merely to precipitate and deal with the sludge without further filtration.

In regard to the distribution of sewage over, and filtration through, land, it will be remembered that, when the battle which a few years ago raged over the question of the disposal of sewage was at its height, one of the contested points was as to the number of persons whose sewage could be utilised

on each acre, estimates varying from 3,000 to 100, according to the system adopted. The power of the particular subsoil to absorb and purify a given quantity of liquid, the use to which the land is to be put, and the method of preparing its surface must, however, be the real elements in the calculation. Clay lands, of course, without special preparation, overflowing as they do with water in wet seasons, cannot rapidly enough absorb a still much larger quantity of liquid, even with the assistance of under-drainage; while, in summer the ground cracks, and the sewage flows straight down to the subsoil drains. On this account, high authorities have expressed their opinion that subsoil drains on sewage farms are worse than useless, and instances are to be found where the under-drains have been taken up. This, however, cannot be considered as an argument against subsoil drains laid at proper depths.

Seeing that filtration, and particularly filtration through land, now forms so important an element in the purification of sewage, I propose to briefly describe some examples of the distribution of sewage upon sandy and other suitable soils, and to notice the important results obtained from the experiments in filtration carried on for the last two or three years by the Massachusetts State Board of Health.

The following tables shew the quantities of sewage applied (I.) to existing sewage farms laid out for irrigation; (II.) to those laid out for irrigation combined with intermittent downward filtration; and (III.) the results obtained by the Massachusetts Board with specially prepared filters.

TABLE No. I.
IRRIGATION AREAS.

Name of Place.	Quantity of Sewage per 24 hours.	Quantity of Sewage applied per Acre per Day.	Soil.
	Gallons.	Gallons.	
Edinburgh	2,500,000	10,000	Subsoil. Sea sand.
Aldershot	156,800	1,960	Poor sand.
Banbury	320,000	2,200	Stiff loam upon clay subsoil.
Bedford	700,000	4,516	Rich loam with gravelly sub-soil.
Berlin { Osdorf	—	4,479	Sandy soil with some loam.
{ Gross Beeren	—	3,901	
{ Falkenberg	—	3,294	
{ Malchow	—	2,479	
Chorley	500,000	5,747	Poor vegetable soil with stiff clay subsoil.
Croydon	3,000,000	11,540	Open soil upon gravelly sub-soil.
Doncaster	600,000	5,217	Light sandy land.
Leamington.. ...	800,000	2,950	Fine loamy soil. Subsoil of gravel.
Dantzic	3,280,000	5,500	Dune sand.
Romford { 1872-73... ..	—	2,438	Loamy gravel and sand.
(Breton's { 1874-75... ..	—	2,453	
Farm) { 1875-76... ..	—	2,782	
Rugby	400,000	6,153	Gravelly soil upon clay sub-soil.
Slough	—	3,047	Sharp gravel and sand.
Tunbridge Wells ...	650,000	3,000	Stiff loamy and light open soil.
Warwick	700,000	5,185	Stiff clay.

TABLE No. II.
IRRIGATION COMBINED WITH INTERMITTENT DOWNWARD FILTRATION.

Name of Place.	Quantity of Sewage per 24 hours.	Average quantity of Sewage applied per Acre per Day.	Soil.
	Gallons.	Gallons.	
Abingdon	200,000	5882·3	Oolitic gravel.
Barnsley	700,000	13,333	Brick earth.
Forfar	600,000	25,000	Free and open, sandy and gravelly, in parts some loam.
Gt. Malvern	350,000	10,000	Marl and clay intermixed with free rubbly earth and gravel.
Kendal	600,000	37,500	Fine sandy loam. Gravelly subsoil.
Merthyr Tydfil ...	1,000,000	13,333	Fine loamy soil with gravelly subsoil.

TABLE No. III.

RESULTS OF EXPERIMENTS BY MASSACHUSETTS STATE BOARD OF HEALTH.

Tank No.	Filtering Material above layer of Gravel and Sand, 1 foot thick.	Quantity of Sewage filtered at the rate of per Acre per Day.	Percentage of Albuminoid Ammonia removed from Sewage.
1	Coarse clean sand, 5 feet thick	102,000	96·0
2	Very fine, nearly white, sand, 5 feet thick ...	60,000	98·5
3A	Coarse sand, same as No. 1, 2·5 feet thick on top; and fine sand, same as No. 2, 2·5 feet thick below	60,000	98·6
4	Extremely fine sand with trench of coarse sand, 2·5 feet deep on top	34,200	98·3
5	Garden soil, 5 feet thick, with trench of coarse sand, 2·5 feet deep on top	8,600	71·0
6	Coarse and fine sand and gravel, 4 feet thick	60,000	97·6
7	Brown soil, 10 inches thick on top; yellow loam, 10 inches thick below; and coarse and fine sand and gravel, 3 feet 8 inches thick	25,700	98·3

* The sewage from Dantzig has been utilised by irrigation on what was originally useless sandy land on the coast, the subsoil water rising to within 5 feet of the surface. The sewage liquid, when applied to the land, forces out any air from it in bubbles, and then sinks rapidly into the subsoil, leaving on the surface and in the pores of the soil both the suspended, and a portion of the dissolved, matters. The land, originally let at 4½*d.* per acre, was subsequently leased to a contractor for 30 years at a rental of £1 11*s* 6*d.* per acre. The whole affair, I am informed, has technically, financially, and otherwise proved a complete success. The depth of humus or vegetable soil has been increased by the continued irrigation. The quantity of sewage applied is equal to about 5,500 gallons per acre per day. Analyses of the effluent water showed that it came within the standard requirement laid down by the Rivers Pollution Commissioners.

* Min. Proceed. Inst. C.E., vol. xlv.

* On the Eton Sewage Farm, the soil of which consists of from 1 to 3 feet of vegetable mould, overlying fine alluvial gravel and sand, in which water stands at about 8 feet below the surface, a whole day's pumping of 80,000 gallons was discharged on about one-third of an acre, and it all disappeared in less than an hour after the pumping had ceased. There was no effluent. This large quantity was however simply experimental of the absorbent powers of the soil, although subsequent investigation failed to discover any deterioration in the quality of the subsoil water all round the farm.

† Berlin disposes of its sewage, at the present time, on sewage farms comprising in all an area of 19,000 acres. The subsoil is principally sand, with a preponderance of loamy sand, with patches of argillaceous loam. The land is underdrained, apparently inadequately, with 2-inch pipes laid from 3 to 4 feet deep, at distances varying from 16 to 33 feet apart. The quantity of sewage applied on the various farms averages from about 2,500 gallons to about 4,500 gallons per acre per day. The land is laid out for three kinds of treatment—Grass plots for broad irrigation; filtration areas for intermittent filtration; and tanks for surplus when not required for the other areas. These areas are about 5 to 6 acres each. The grass plots produce the best effluents; the filtration areas stand next; and the tanks last.

Mr. ROECHLING dwells on the importance of the intermittency of the application of the sewage, and arrives at the conclusion that not more than from 2,000 to 3,000 gallons of daily sewage flow should be allotted per acre.

The Berlin authorities are of opinion that about one-half the volume of the sewage distributed on the land finds

* Journal of the Society of Arts, 1876.

† Min. Proceed. Inst. C.E., vol. cix.

its way into the effluent drains. Experiments have been made, and are being continued, in the rearing of fish—the small fry of trout and salmon-trout—in the effluent water, and, so far, they appear to have met with success.

The amount of sewage applied to farms laid out for irrigation only, varies ordinarily from about 2,200 to 6,000 gallons per acre per day. But the smallest of these quantities, which is equivalent to about seventy persons to the acre, is more than some soils can purify, for Dr. FOSBROOKE refers to the effluent water from the Banbury Sewage Farm, with its clay subsoil, as “black and offensive, and discolouring the stream for a distance of some 120 yards.”

The retentiveness of clay soils, however, may be modified, and the surface, at all events, may be made porous to some extent by the ploughing-in, as at the *Wimbledon Sewage Farm, of a thick coating of screened town ashes. In this way 20,000 gallons per acre per day have been applied with satisfactory results.

The laboratory experiments of Dr. FRANKLAND, which led to the practice of intermittent downward filtration, showed that volumes of about 43,000 gallons, 74,000 gallons, and 96,000 gallons per acre per day, filtered through various kinds of porous soil, could be completely purified when subsoil drains were laid six feet deep.

In the practical application of these results, about one-third of the land acquired for the disposal of sewage has been laid out for intermittent downward filtration, while the remainder has been laid out for irrigation. Table II. shows how much sewage has been disposed of over each of the farms so laid out, calculating the quantity as distributed equally, but for limited periods the whole of the sewage in some cases has been intermittently applied and purified on the filtration areas alone. For example, at Merthyr Tydfil,

* CRIMP on Sewage Disposal Works.

where the land consists of fine loamy soil with gravelly subsoil, as much as nearly 50,000 gallons per acre per day for five months was absorbed and cleansed on the filtration areas alone, and probably even more could be treated were it not for harm to vegetation.

The recent experiments carried out by the Massachusetts Board of Health* throw additional light upon the filtration of sewage through various kinds of porous soil, and shew how large quantities may be purified, and the manner in which the purification is effected.

The experiments were conducted in watertight tanks about seventeen feet in diameter and six feet deep, with drains laid at the bottom to carry off the filtered liquid. In each tank there was laid, to the depth of one foot, first coarse gravel, then sand, gradually getting finer, the remaining five feet being filled up with various materials in the different tanks. Table III. shews how much sewage was finally passed through each tank and the percentage of albuminoid ammonia removed.

The experiments were conducted with the two-fold object of a chemical and biological examination of the effluent water. Now, the researches of Mr. WARINGTON† in this country established the fact that nitrification of the complex nitrogenous bodies existing in sewage during its filtration through land was brought about by definite organisms working in the first nine inches of top soil, thus confirming the French chemists' view that oxidation in the soil was the result of the action of minute organisms of the bacteria family.

The investigations of the Massachusetts Board shew that there must be air in the interstices of the filtering

* Massachusetts State Board of Health, 19th and 22nd Annual Report).

† The Surveyors' Institution "Transactions," vol. xvii., p. 207.

material if the sewage is to be properly purified, and that, accordingly, it must be only intermittently applied, so as to allow for the aeration of the soil. They found that garden soil on the surface of the filters retained so much moisture that this aeration was retarded, and thus, although when sewage was passed through at the rate of 8,600 gallons per acre per day they were most efficient in filtering out all the bacteria, the effluent still contained 29 per cent. of the albuminoid ammonia found in the sewage. Apparently these filters not only strained, but also destroyed, the organic impurities in the sewage, and they did this partly through organisms which need oxygen for their existence and multiplication. Hence it is found that sand and gravel, which, when sewage is intermittently applied, become dry, and so afford free air spaces for the development of the organisms, are the most efficacious in producing an effluent free from organic impurities. It was found that the action of the filters was improved by raking over their surfaces once a week. The report also states that, "among the most interesting results obtained from the intermittent filtration of sewage were those in which the filtering material was entirely of gravel and stones as large as beans. The sand had not only been screened out, but all the stones had been washed, so that no sand adhered to them, before they were put into the tank. They formed a bed five feet in depth, and for nine months sewage pumped directly from the city sewer was applied nine times a day for six days in the week, in quantity equivalent to 81,400 gallons per acre per day. Here we find that 98.6 per cent. of the organic matter is removed by being burned and converted into nitrates, and more than 99 per cent. of the bacteria that were in the sewage were killed."

The quantity was increased to an equivalent of 126,000 gallons per acre per day for six days in the week. "This was continued for three months, and still 98.5 per cent. of

“ the organic matter of the sewage was removed, and more than 99·6 of the bacteria were killed. This result shews more definitely than any other the essential character of intermittent filtration. The stones were as clear as they were “ a year before.”

In all these investigations and experiments stress is laid upon the intermittent application of the sewage.

But in the last Report of the Board (1891) it is stated that after four years' working the upper surfaces of the materials in the tanks became clogged by the accumulation of a small percentage of the organic matter, and that the effluent deteriorated. In one tank this was found to extend three inches below the surface after sewage had passed through at the rate of 80,000,000 gallons per acre. This depth of three inches would then have to be removed and cleansed.

The effluent from the tank in which the filtering material consisted entirely of gravel and stones, as just described, after about two years' working suddenly became fouled, and it was found that the air in the interstices had become impure from the amount of organic matter which had been retained. It seems clear from this that a layer of sand on the surface is necessary.

Actual practice shows that quantities varying from 2,000 gallons to 6,000 gallons per acre per day have generally been applied to sewage irrigation farms, and from 10,000 gallons to 60,000 gallons to farms laid out for irrigation combined with intermittent filtration where crops are cultivated; while the experimental filtration areas, acting as filters only, absorbed and purified volumes varying at the rate of 26,000 gallons to 126,000 gallons per acre per day where there was no top soil, and, excluding the experiments on garden soil: 5,000 gallons per acre per day represent a little more than an equivalent of 80 inches of **rainfall per annum.**

Dr. FRANKLAND, however, pointed out the objections to the general adoption of the process of intermittent downward filtration :—

“ I. That it is entirely unremunerative ; the amount of
“ sewage applied to a given area of land being probably in
“ such a case too great to permit of the growth of any
“ ordinary agricultural crop.

“ II. That the whole of the manure ingredients of the
“ sewage would be absolutely wasted.

“ III. That the collection of the solid fœcal matters upon
“ the surface of the soil, with no vegetation to make use of
“ them, would probably give rise to a formidable nuisance,
“ especially in hot weather.”

With regard to the first and second objections, those who have had to deal with sewage have long since ceased to encourage hopes of profit from it in view of the greater importance of sufficient purification, so that, if the area of land to be acquired can be materially reduced, the growth of crops becomes a secondary consideration. The question now is, which is the most economical way of getting a good effluent, rather than which is the most profitable way of utilising the manure ingredients.

The third objection can be met by sufficient straining of the sewage, and the difficulty does not appear to have troubled for a long time the Massachusetts Board, as it was disposed of by raking over the surfaces of the filter beds, although there the sewage probably was weak.

The results of the experiments of the Massachusetts Board support those of Dr. FRANKLAND as regards the large volume of sewage intermittently applied that can be absorbed and purified on each acre of suitable soil ; and they shew, further, that by careful manipulation in the distribution of domestic sewage, under certain conditions filter beds might, in many cases, be used without previous chemical treatment, and a high degree of purification be

obtained on very limited areas, the sewage being previously strained. But where sufficient land cannot be obtained, and in manufacturing towns, some chemical treatment becomes further necessary. Some examples of the latter may be quoted to shew how the difficulties, which for years had notoriously been very troublesome, have been overcome.

The works established at Mortlake provide prospectively for the disposal of the sewage of a population of 80,000 from the town of Richmond and places lower down the river. The dry weather flow of sewage is estimated at $2\frac{1}{2}$ million gallons. The sewage is first treated with milk of lime. It is then strained, and afterwards thoroughly mixed with a solution of alumina, carbon, and iron, and then allowed to precipitate in tanks. The resulting sludge is pressed, and the effluent is filtered through filter beds comprising an area of $1\frac{1}{2}$ acre, containing layers of various-sized gravel, sand, and carbon, the surface being covered with a thin layer of earth sown with grass. The rate of filtration would be about equal to the ordinary rate of the London Water Companies' filter beds.

The Birmingham sewage, which comprises not only that from within, but also a good deal from without the municipal boundaries, contains an unusual amount of acids, and equals in volume about 20 million gallons per day. First it is treated with about 8·6 grains of lime per gallon, then discharged into tanks, where precipitation takes place, and is then, at the average rate of 21,846 gallons per acre per day, allowed to flow on to about 915 acres of land, which are irrigated with it. The subsoil of the land is gravel and sand, varying from 6 feet to 10 feet in thickness, and it is underdrained at a minimum depth of 4 feet 6 inches. The sludge from the precipitation tanks is not pressed, but is pumped up into wooden troughs on high trestles, and so conveyed to the land (which is porous where it is deposited), is allowed to dry, and is then dug in over an area of

40 acres. The wet sludge amounts to about 500 tons per day. I understand that, whereas, before this system was established, fish disappeared from the brook below the farm, they have now reappeared, and have been seen above the point at which the effluent is discharged.

*Wolverhampton at one time simply disposed of its sewage by irrigation, and intermittent downward filtration on land. Owing, however, to the presence in the sewage of iron and other matters which were destructive to all vegetable life, the sewage had to be mixed with lime and precipitated in tanks, and then distributed upon the land.

The dry weather flow of the sewage varies from 2 to $2\frac{1}{2}$ million gallons, and 30 grains of lime per gallon are mixed with it. Much of the iron in the sewage is now being got rid of, so that the proportion of lime, and consequently the quantity of the sludge, is being reduced. One hundred and fifty-three acres are now used for irrigation after precipitation, the average daily quantity being 14,706 gallons per acre. Dr. FRANKLAND shewed that the effluent was a very fair one, and, as 400 acres will eventually be acquired, the average daily quantity applied per acre will be reduced to about 5,625 gallons, and the effluent will probably be further improved.

It was at first proposed to use lime and alumina, and experiments were made with alumino-ferrie, ferozone, and with the electric current, and the "Amines" process was tried; but it was finally determined to use lime only, coupled with subsequent application to land.

About 300 or 400 tons of sludge are daily deposited in the subsiding tanks, and are pumped up and pressed into cakes, which are given away to the farmers in the neighbourhood.

The treatment of sewage with "ferozone," together with subsequent filtration through sand and "polarite,"

has been adopted by several towns, and the effluent from the process has been favourably reported upon by Sir HENRY ROSCOE and Dr. FRANKLAND.

Dr. FRANKLAND states that at Acton the process removed nearly 93·75 per cent. of the dissolved organic matter originally found in the sewage. It is also claimed that 1,000 gallons of sewage, after treatment with “ferozone,” can be filtered and purified through 1 square yard of “polarite” in 24 hours. This rate, however, of filtration and purification seems very rapid when it is borne in mind that the London Water Companies do not pass more than, and in some cases less than, 450 gallons through their filter beds.

These examples are sufficient to show that no one system of treatment is a panacea for all the difficulties and evils attending the pollution of rivers and streams by sewage, but in all of them we see that the necessity of filtering the sewage through land, or some specially arranged materials, has been recognised.

If sewage is to be distributed over suitable soils, its application to that soil must be carefully regulated by a sufficient and qualified staff. Thus the Berlin farms, in the care and regularity with which the sewage is measured out to their different plots of land, are managed with something like military organisation. It was for its excellent management that the sewage farm at Abingdon was praised by Dr. ASHBY; and it was owing to the care with which the sewage was applied that the effluent from the filter beds of the Massachusetts Board was so highly purified.

It is much the same with chemical treatment. For the efficient oxidation and precipitation of the organic matter in the sewage there must be certain proportions of chemicals. Unfortunately, to save money, this proportion has too often been reduced, with the result that the sewage has not been sufficiently purified. At Wolverhampton, a resident chemist

has been appointed, and the precipitation and pressing processes are continued day and night.

At the present time I understand that experiments are being carried on on behalf of the London County Council for the purpose of ascertaining the filtering power of various materials. The results will, no doubt, be valuable; and it is to be hoped that they will carry us a step further towards the prevention of the pollution of rivers.

Urban and rural sanitary authorities have done and are doing much, despite local opposition from the people most interested; but the Rivers Pollution Act, 1876, although its powers have been conferred upon the county councils, is inoperative.

An Act* obtained last Session for "making more " effectual provision for prevention of the pollution of the " Rivers Mersey and Irwell and their tributaries" (notorious for their highly polluted condition) removes certain restrictions, so far as these rivers are concerned, contained in the Act of 1876, and confers further powers on the Joint Committee, constituted by Provisional Order in 1888, of representatives of the counties of Lancaster and Chester, and of several county boroughs.

It contains Parts corresponding to those in the Act of 1876 relating to—I. solid matters, II. liquid sewage pollution, and III. liquid manufacturing pollution. An important distinction in Part II. relating to liquid sewage pollution is made in the abandonment of the proviso that "a person" (a person here meaning a sanitary authority and any other body of persons whether corporate or not corporate) "shall " not be deemed to have committed an offence if he shows he " is using the best practicable and available means to render " harmless the sewage matter so falling or flowing or carried " into the stream." It is thus clearly recognised that the means now available of preventing pollution from sewage

* Mersey and Irwell Joint Committee Act, 1892.

are such as to render such pollution inexcusable. The omission of the proviso must be regarded as most desirable, when it is remembered that, as some believe, it is from sewage pollution that the greatest danger is to be apprehended owing to the dissemination of cholera and typhoid germs. An individual is not, however, held responsible for passing sewage into a drain discharging polluted matter under the control of a sanitary authority, if he has the sanction of the authority for so doing.

The power of extending the time for the execution of works by the Sanitary Authority is relegated to the Joint Committee instead of to the Local Government Board.

Part III. of the Special Act deals only with liquid manufacturing pollution, the solid matter being dealt with under Part I., in which its deposition into any river or stream is absolutely prohibited. Under Part III. the phrase "the best practicable and reasonably available means to render harmless the poisonous, noxious, or polluting liquid" is still retained.

Proceedings against any person are not to be taken under Part III. without the consent of the Local Government Board, but the Joint Committee, after giving notice to and hearing the person offending, is to determine whether or not proceedings shall be taken, and if so are to apply for the "central Board's consent.

Offenders under the Act may be prosecuted and penalties recovered in a summary manner before a court of summary jurisdiction by the Joint Committee. The Committee may also authorise any officer or other person to enter any premises for the purpose of taking samples of the effluent water where it passes into any river or stream within the jurisdiction of the Committee. It seems most desirable that powers similar to these should also be conferred on local authorities responsible for preventing pollution. There is, indeed, everywhere a tendency—witness the Public Health (London) Act, 1891—to make sanitary laws more stringent; and it is not too soon.

It has been said that we must be prepared for another outbreak of cholera this summer, and the fear of it will, perhaps, for a time, have a more potent effect than the most stringent pollution Act.

And, indeed, the state of things described in the first part of this Paper, and the condition of many of the rivers in the country, seem to make it imperative amongst other things—

- I. That power, similar to those under the Act of last Session for the prevention of pollution, should be conferred upon local authorities in general.
- II. That County Councils, or their Committees, should conduct investigations for the purpose of establishing standards of purity for the rivers and streams within their respective boundaries.
- III. That the same authorities should establish a system of examination of all the effluent waters from sewers.

The State Boards of Health in America, and the Massachusetts Board in particular, in being able to conduct experiments on such an important subject as water and sewage filtration, seem to have powers in advance of our own Local Government Board, and it may be noted that Sir GEORGE BUCHANAN is reported to have stated only the other day that “there were too many demands on the “limited allowance by Parliament to the Medical Department of the Local Government Board to continue the water “investigations of Dr. DUPRÉ.”

It would be a great step if the County Councils were enabled, through their able medical officers, to make investigations for the benefit of their own districts.

I have now only to thank those who have given me information and assistance in the preparation of this Paper.

The discussion of the Paper was deferred to the next Meeting.

AT

THE ORDINARY GENERAL MEETING

Held on Monday, May 8th, 1893.

CHARLES JOHN SHOPPEE (PRESIDENT) IN THE CHAIR.

A discussion took place on the Paper by RICHARD F. GRANTHAM (Associate), entitled "Recent Experience in Sewage Filtration considered in relation to River Pollution," which was taken as read at the last Meeting.

Mr. GRANTHAM said he wished, before the discussion commenced, to correct an error which appeared in the Paper, in which it was stated (page 401) that $3\frac{1}{2}$ million tons of sludge were sent out from the London outfall in the year. He learned from his friend Mr. CRIMP that the figures should be from 2 to $2\frac{1}{2}$ million tons instead of $3\frac{1}{2}$ millions.

The particular points to which he should like to draw attention were:—

First, that while much had been done in disposing of sewage in urban districts, there was still much to be done in country towns and in rural districts, where, in some cases, chemical works and irrigation works did not, owing to lack of proper management, produce satisfactory effluents.

Secondly, that at present there was no standard of purity for effluents, although two standards had been suggested, one by the Rivers Pollution Commissioners, and one by Mr. WILLIS BUND, which were referred to in the Paper.

Thirdly, that the experience of recent years had determined several points, and among them the necessity for filtering sewage after treatment, either through some material or through land suitable for the purpose. He wished particularly to draw attention to the experiments in the filtration of sewage carried out by the Massachusetts State Board of Health, which showed that a large quantity of sewage could be, under favourable circumstances, sufficiently purified through gravel and sand. These experiments were particularly interesting, and, he thought, well worthy of study. They had been fully described in the Paper.

He had given examples of how some of the large manufacturing towns had overcome the difficulty of dealing with their sewage by first treating it with lime, and then distributing it over the land, with satisfactory results. The Rivers Pollution Act, which would be found referred to in the Paper, was well known as being inoperative, but the Act passed last Session for the prevention of the pollution of the Mersey and the Irwell seemed well worthy of imitation in a more general Act. It would be a great step if the County Councils were enabled, through their medical officers, to make investigations for the benefit of their own districts, as they might then possibly be able to fix on a standard of purity, each for its own particular district.

With regard to the last part of the Paper, he wished to draw attention to the three recommendations there set forth, viz. :—(I.) That powers, similar to those under the Act of last Session for the prevention of pollution, should be conferred upon local authorities in general ; (II.) That County Councils, or their Committees, should conduct investigations for the purpose of establishing standards of purity for the rivers and streams within their respective boundaries ; and (III.) That the same authorities should establish a system of examination of all the effluent waters from sewers.

Mr. J. W. WILLIS BUND (Associate) said he had much pleasure in moving a vote of thanks to Mr. GRANTHAM for his Paper, although there were one or two points upon which he did not altogether agree with him.

The author had given the results of the last few years' work in a very concise and accurate form. He (Mr. WILLIS BUND) was one of those heretics who thought that the greatest sinner in the matter of pollution was the Local Government Board itself. He knew he should be told that they were doing all they could to check pollution, and were carrying out a great work ; but they proceeded on the assumption that sewage was sewage wheresoever it was met with, and that treatment was treatment, and that the same mode of treatment was applicable to all places and under all circumstances. That was not so. One of the great difficulties in this question was caused by the Rivers Pollution Prevention Act of 1876. The 7th Section of that Act (inserted by the Local Government Board) had given rise to more trouble than any other legislation on the subject. It provided that every local authority should be bound to receive the refuse of any manufacture into their sewers. The result had been that, while formerly what came out of the sewers was what was generally understood by "night soil," or something of that nature, it was now impossible to tell in any case what would emerge from the sewers, and the consequence was, when a sanitary authority were about to deal with sewage, no one knew what was to be treated or what effect the process proposed to be applied would have. It was argued that because the sewage of a certain town was successfully treated by "so and so's" process, that same process would consequently be successful elsewhere ; when perhaps the whole conditions were different in the one place from those in the other, and the result was that the ratepayers were put to enormous expense, and the last state of things

was worse than the first. The idea that an invariable treatment could be applied to all cases, was the most fatal mistake that could be made, and until the fact was realised that, in consequence of sewers in different towns receiving the refuse of different manufactures, it was necessary to deal with all sorts and conditions of refuse, differing in different places, it was impossible to effect an efficient treatment. To approach the question from the point of view of the Local Government Board, that there was one universal treatment, was only putting the ratepayers to unnecessary expense.

While he agreed with Mr. GRANTHAM as to the desirability of treating sewage over land, yet he felt very strongly that the way of treating it depended very much on the land itself. This did not seem to be taken into account by the Local Government Board except, perhaps, to a very slight degree. They simply said, "You have so many acres of land." Whether it was impervious or otherwise, the same system was adopted. He looked forward to some very pretty litigation on this point. Some unfortunate town on very porous soil would be induced by the Local Government Board to borrow large sums of money to execute sewage works, and would carry out those works with the result of poisoning or polluting the underground water to a very considerable extent. This would give rise to a very fruitful crop of litigation. It had already been decided that no person had a right to pollute the underground water of his neighbour. He confessed he could never quite see the justice of that decision; but it was a decision in the Court of Appeal, in the well-known case of *Ballard v. Tomlinson*, 29 Ch. Div. 115, and was now the law of the land, and if local authorities treated sewage (as they now did) indiscriminately, without regard to the nature of the land, whether it was sand or gravel,

or what not, they would some day find themselves involved in very heavy and instructive litigation. He felt sorry for the ratepayers in whose district the case would arise ; but there would be some very interesting points to be decided.

He was rather at issue with Mr. GRANTHAM on the question of County Councils. He spoke feelingly on that point, for he had the honour, or the misfortune, to be Chairman of a County Council, and had seen a good deal of work as regards river pollution. His county was in the middle of the course of a large river, and if they were to set up a standard of purity, the county either to the north or south of them might set up another, and he was afraid things would be rather worse than they were. At the present time there was a dead-lock from two causes. In the county to the south of his, the river was partly tidal, and, consequently, the Rivers Pollution Act did not apply. On the north, the County Council themselves polluted the river to a large extent, so did not want anything done, and refused to join any committee, and, consequently, while in his district the County Council wished to do their duty as far as they could, they found themselves in a very great difficulty, which he thought would be shared by many other Councils. As far as he could see, the only way out of the difficulty was this—that they should have some statutory authority, somewhat similar to that much-abused body, the Thames Conservancy, over the whole watershed, to be appointed by, say, the County Councils or the local authorities. It was only in that way (having a Board to represent the whole district) that it was possible to deal with this matter satisfactorily. It must be in some sense an elected Board, with power to spend money on such work as they thought fit to carry out ; but unless there were some such body to do all the work relating to pollution and fisheries and everything else

connected with the river, it would never be satisfactorily performed.

One word in regard to standards. Mr. GRANTHAM had been good enough to allude to him in this connection, but he was not ashamed to say that he had rather changed his views in this matter. He did not think it practicable to have one universal standard in the whole country, and the longer he lived the more convinced was he of this. There were certain rivers that had become so polluted, and must, he feared, remain so polluted, that it was impossible to have for them the same high standard that was reasonable for other rivers; consequently, for different rivers, different standards must be adopted. Whether it would come to having different standards for different parts of the same river he was not at present prepared to say, but he was sure that, looking at the varying conditions affecting the different rivers of this country, it would be utterly absurd that one standard should be applied to the whole. Take, for instance, the Don—as dirty a river as he knew—or the Aire and Calder, and then take the Wharfe or any other clean Yorkshire river, and the absurdity of the idea of applying the same standard would be apparent to everyone.

He observed that Mr. GRANTHAM said something with regard to fish. But fish formed a most misleading test to apply to the purity of water. Mr. GRANTHAM said that in Berlin they bred fish in the effluent with satisfactory results. If they were bred in foul water they would live in much fouler water than fish that were suddenly introduced into it. He had very often found in his experience, in carrying out the law, that a very good way of proving that pollution killed fish was to get some of the water and put fish from other parts of the river into it. Even if the pollution were very slight indeed they at once turned up, and if they did not die they were “poisoned or sickened,” which were the

words of the Salmon Fishery Act. The amount of pollution a fish could endure when he was accustomed to it was wonderful. The real test of pollution in regard to fish was, in his experience, healthiness. One might, of course, get water that would kill them at once, but much less polluted water which did not kill them so soon strangled their growth and prevented their increasing. It cut off their food, and so destroyed them. He knew a great expert on sewage who said that he had a wonderful purifier, and he wanted him (Mr. WILLIS BUND) to give him a testimonial in favour of it. It was to sterilise the effluent. He (Mr. WILLIS BUND) asked, "How are the fish to live? It seems to me they will "die of starvation." He said it had not struck him in that light. He thought the fish test was not one that could altogether be relied upon: it was reliable up to a certain point, but not beyond it.

Again, although the water might be perfectly clear and bright and might appear in every respect what it should be, there might be in it, in solution, pollution of a most deleterious character which did not always directly affect the fish, although it sometimes did so. He had known of cases where fish lived in water which was poisonous to animals.

He must admit that he had learned many new facts in the course of the experiments which he made, and which Mr. GRANTHAM had done him the honour of quoting.

He was reluctant to occupy longer the time of the Meeting, but the two points which he wished particularly to emphasise were (1) that an endeavour should be made to impress on the Local Government Board the absurdity of trying to find any one mode of dealing with the sewage in every part of the country; and (2) that whenever they sent an inspector down to enquire, that, instead of enquiring whether there was sufficient land available or whether a particular form of treatment (whichever it might be) should

be adopted in a particular case, he should enquire into the cause of pollution and the best purifier for that pollution. Having ascertained this, the inspector should also, he thought, enquire what standard of purity was required for the river under consideration—having regard to the fact that it was to be used for a drinking supply for the people, or that an important fishery was involved, or that it was to be simply a sewer throughout its course. If the Local Government Board were to take some such steps as these, instead of making the perfunctory enquiries they now made, they would obtain a proper knowledge of the most desirable means of dealing with sewage in different cases, and he thought that a real sanitary benefit would result from such investigations.

The other point on which he was so unfortunate as to differ from Mr. GRANTHAM was this, that he did not think County Councils were ever the proper bodies, by themselves, to deal with the question. They very seldom had the whole control of a watershed, and it would be absurd to argue that any body which controlled only a part of a watershed or one (or even both) of the banks of a river for a certain distance only could effectually restrict the pollution of that river. All they could do was to deal with the pollution in their own limited district, with no control over what happened above it, and no responsibility for the damage wrought lower down.

Mr. A. HARSTON (Fellow) said that he had very great pleasure in seconding the vote of thanks to Mr. GRANTHAM for his Paper. He much regretted that the short time available before the end of the session had made it impossible for Mr. GRANTHAM to read his Paper, and the more so as he had not had the leisure to study it himself. He was, therefore, precluded from taking any active part in the dis-

cussion ; but he was modest enough to think that this might even be an advantage to him and to the Meeting, for it would leave more time for other speakers better acquainted with the subject to deal with it, and thus enable him to gather much information which would be valuable to him.

He could not, however, help expressing his opinion that the suggestion of Mr. WILLIS BUND, that the control of the whole watershed should be vested in some proper body, touched on a matter of great importance. It was essential to a proper solution of this problem that the sewage area should not be bounded by limitations fixed for quite different purposes, such as county administration or the election of parliamentary representatives. It was a large question how far boundaries could be made uniform for a large number of purposes ; but it was very certain that in dealing with the question of drainage they should follow the contour of the land, and that districts widely differing in character and requirements should be separately dealt with.

Major LAMOROCK FLOWER (Visitor) said that Mr. WILLIS BUND had drawn attention to the fact that, if an authority was to exercise effective supervision over a river, it should have control over the whole watershed. He happened to be the first who was appointed in official charge of such an entire area—the area of the river Lee. It was not, however, a new point to raise—that it was desirable that a river should be entirely controlled by one authority over the whole of the area of its watershed. It was advocated in the days before the Lee Conservancy Board was established, and the weakness of the Thames Conservancy consisted, he thought, in the fact that it had not the control of more than a strip of country ten miles wide on either side of the main river. It was absolutely impossible to restrain some of the more

serious sources of pollution and to make a river pure without the government of the whole watershed area. He drew attention to this at the Society of Arts a good many years ago, as might be seen in a Paper which he published at the time, on "Sewage Treatment; more especially referring to the Lee Valley."

There was one point in Mr. GRANTHAM'S Paper with which he joined Mr. WILLIS BUND in thoroughly agreeing, viz., that it was impossible to establish in this, or indeed in any country, one unvarying system of dealing with the sewage. He had always held that there was no "universal cure" for treating sewage. It had been said again and again that nothing but pellucid jets of water would result from treating sewage by somebody's patent process. But all those things had proved fallacious, and one could only fall back on the old rule, by which MOSES told his followers to clear away their refuse as quickly as possible, and to get rid of it in the earth.

He was sorry to see Mr. GRANTHAM'S reference to the reports made by medical officers of health to the Royal Commissioners on the London Water Supply. He was perfectly certain that if Mr. GRANTHAM had read his (Major FLOWER'S) evidence before that Commission, he would not have been led to quote the little village of Wheathampstead as illustrating the failure of a precipitation process. Those reports were written, as he thought everyone knew, with an object, and reports written with an object were apt to be rather highly coloured. Was it not, in these modern days, a little beside the mark to mention that the process was so ineffective that it did not even take the colour of the blood of pigs out of the sewage? Surely it was not long since blood was lauded as the great purifier of sewage.

Again, Wheathampstead was only a very small village,

and he did not think, as he told the Royal Commissioners, that more than one thousand persons could possibly contribute to the sewers. There were no w.c.'s, or very few. Most of the cottages were simply provided with the usual arrangement in the back garden. There was no water supply except from wells, and the flow of sewage was infinitesimal. It came down to two flat tanks, originally prepared for precipitation, but abandoned some years ago, and, after subsiding there, the fluid was allowed to dribble away into a gravel ditch, where it soaked away, doing no harm to anybody.

At all events, he could say that there was not an ounce of pollution to the Lee from the little village of Wheathampstead, about which so much had been said before the Royal Commission. It would be possible, he hoped, to know before very long what effect the reports of those medical officers of health had had on the minds of the Royal Commissioners. He did not wish to find fault, but he hoped that the Members of the Institution would look out for themselves, if they did not wish to be entirely superseded in control by medical officers of health. He thought the duty of a medical officer of health was to take care of the health of the district over which he was appointed—to point out if there were any epidemic, or zymotic diseases due to impurities existing in the neighbourhood, and to cure them if he could ; and it was the duty of the surveyor, and not of the medical officer of health, to find out the cause of pollution, and to abate it. He was reluctant to say this, but he found that the medical officers, instead of being an assistance, sometimes became a hindrance to the surveyor's work.

There was, he feared, a tendency towards making the medical officer paramount, and giving him the status of chief officer to the local sanitary authority, to the detriment of the position of the surveyor, whose professional knowledge

of constructive and working details had been gained by long practical experience.

Mr. H. A. ROECHLING (Visitor) said Mr. GRANTHAM'S valuable Paper dealt with a most important subject, the influence of which upon the health of a nation, or rather of all nations, could not be over-estimated, especially in times when, as at present, official warning notes were heard throughout the length and breadth of all civilised countries against a dreaded attack of cholera. A locality, if it wished to escape decimation by this terrible scourge, must be in a sanitary state, one of the main conditions being the effectual disposal and utilisation of its sewage. This not only affected the town itself which produced the sewage, but also more or less the towns and villages situated on the banks of the river that took the sewage effluent, for some miles below the town.

It was apparent, therefore, that it would be an inestimable boon if the whole watershed of a river was under one authority, so as to avoid an endless multiplication of authorities, which generally meant inactivity. This watershed authority should be fully armed, not only with legal powers, but also with an efficient staff of inspectors and with ample funds to carry on scientific investigations on an extended scale. He believed the Mersey and Irwell Joint Committee Act of 1892 had already effected a great deal of good in that home of polluted rivers, Lancashire, and the Joint Committee appeared determined to remove these unpleasant traces of our industries as speedily and as effectually as possible. The County Councils' Association had drafted a Bill this Session "to make more effectual provision for the prevention of the pollution of rivers and streams," and it was to be hoped that this Bill, though it might be improved upon in several respects, would become a public Act.

He was afraid, however, that a good many towns would then take up the position that a public general Act cannot override a private Act by which a town has obtained power to discharge its sewage into a river at a particular point and under certain conditions. If this contention should be upheld (and he was informed it had been successfully raised in one or two cases), then each watershed authority would have to obtain a private Act repealing all former private Acts and sections of private Acts bearing upon this point in its area.

There could, however, be but one opinion on the point, that the pollution of rivers and streams must be prevented as speedily as possible, and that the funds and machinery necessary for doing this must be found. If other countries had been more fortunate in this respect it was owing to their rivers being, generally speaking, considerably larger, and to their having to some extent learned from the bad experience gained in this country. However, they had all made up their minds to keep their rivers sweet and pure, and a general striving was observable among all civilised nations to find out the best means of attaining this end.

In any one particular case of sewage disposal or utilisation, it was the river into which the effluent went which decided the question whether the system in vogue had been a success or not. If the river was not in any way influenced by the effluent, then it might be safely concluded that the method employed was the right one for the locality, but if the water was rendered black and noxious, then the method employed had entirely failed to purify the sewage.

It was quite impossible to lay down one general method of sewage purification for every locality, as every case must be considered on its particular merits, and he believed that the non-observance of this primary consideration had been the cause of several failures in the past. An outcry had

lately been raised against the system of sewage irrigation, and some advocates of other methods had been good enough to call it obsolete and a thing of the past, without, however, being able to back up their statements by solid facts. The mistake these gentlemen made was that they confused in their minds the particular application of a principle with the principle itself.

That some sewage farms in this country had failed to produce an effluent fit to be discharged into a brook, was undoubtedly correct, but it was nothing short of absurd to raise a cry against all sewage farms in consequence.

A sewage farm established on an unsuitable soil and badly managed, had no chance of turning out a good effluent, but a sewage farm established on good soil and under good management, or even on indifferent soil but under good and intelligent management, would turn out a good effluent. He had not the slightest hesitation in saying, as he had proved in his Paper on the Berlin Sewage Farms, read last year before the Institution of Civil Engineers, that land, when suitable and well managed, had done more towards the purification of the sewage than any other process yet invented. It was quite evident, therefore, that the principle of sewage irrigation was a correct one, and that in those places where sewage farms were alleged to be a failure, the application of the principle was indifferent or bad.

He might remark here that he had in no way set his face against chemical methods; on the contrary, he did not deny for one moment that, under certain conditions, it might be necessary to fall back upon chemical precipitation, and he had quite recently advised a local board to this effect; all he now wished to point out here was, that sewage irrigation was neither antiquated nor obsolete, but that, on the contrary, when land had a fair chance it was the best purifier.

For the information of those gentlemen present who had no opportunity of hearing the facts about the Berlin Sewage Farms, he would give here a few general particulars concerning them.

The city of Berlin had now a population of $1\frac{3}{4}$ millions, and was situated in the sandy plains of North Germany, on either side of the Spree. The flow of the river was sluggish, and it was held up by one or two locks. The Spree did not carry more water, in periods of great drought, than about 450 cubic feet per second. It was at first intended to collect the sewage of Berlin at one pumping station, and to treat it there chemically; but this plan had been given up, and the sewage of Berlin was now pumped from 12 different pumping stations within the boundaries of the town on to farms north and south of Berlin, from 6 to 12 miles distant from the heart of the city. The total area of the farms stood on the 31st March, 1890, at 18,790 acres, of which 11,016 were under sewage treatment, the rest being farmed agriculturally until it was required for the sewage of the town. The total daily flow of sewage amounted now to over 30 million gallons.

The subsoil of the farms was chiefly sand, with a preponderance of loamy sand and sandy loam in places, especially on the northern farms. The effluent from the farms went into small ditches, which emptied into small streams not bigger in places than from 10 to 12 feet across. The effluent from the northern farm came back to Berlin, whereas the effluents from the southern farms discharged into the Havel at Potsdam, several miles below Berlin. When the nature of the streams that took the effluent was considered, viz., their sluggish flow, their small area in cross section (almost too small in places to carry both the sewage and the ordinary discharge), and their much-obstructed and very tortuous course, it would be admitted

that the Berlin sewage farms were placed at a great disadvantage in this respect, and that there was every chance that an effluent not perfectly purified would set up secondary decomposition.

The farms were situated in the midst of the surrounding populous villages, and the money spent upon them amounted, on the 31st March, 1890, to £1,173,648. At first a good many complaints were raised by the adjoining owners against the sewage farms, and several Royal Commissions were appointed to enquire into their condition. As a result of these enquiries the Town Council of Berlin adopted very stringent regulations for the management of the farms, and for the sewageing of each field in particular. Gradually the complaints about the farms ceased, and now adjoining owners were anxious to sewage their own land or to hire portions of the sewage land from the Corporation. The Berlin authorities rightly laid great stress upon a most careful systematic sewageing of the land, as, without it, the results from the farms, both commercially and from a sanitary point of view, must be mere matters of chance. They had now quite an army of thoroughly trained sewage men, which enabled them to cope most successfully with sewage irrigation upon a scale that was at present without a parallel.

As to the financial results obtained from the farms, he might say that the profit of management, expressed as the rate of interest on capital outlay, amounted to a little more than 2½ per cent. in the year ending 31st March, 1891, and this, it would be admitted, was a very fair interest in these days.

Concerning the degree of purification attained on the farms, he might point out that, though they had absorbed over 350 millions of tons of sewage since they were first laid out, they had turned out a most excellent effluent, in which

only from about 5 to 10 per cent. of the dissolved organic pollution, present in the raw sewage, remained. These results had not been obtained from a few isolated analyses made now and then, but from about 300 analyses regularly carried out during the last 10 years or more. He knew of no chemical treatment that was able to shew such good results for so long a period.

A good deal had been said against sewage farms on account of the unhealthy conditions of life they were apt to produce, but that such was not the case on the Berlin farms was evident from a careful perusal of the mortality figures observed on them. He would only mention that, though a severe epidemic of typhoid fever was raging in the eastern and northern portions of the city at the commencement of 1888, yet no case of this fever was reported from the farms throughout the year. The authorities had now established four convalescent homes, with 286 beds in all, on the farms, which were supplied with water from wells sunk on the spot, and were doing excellent work.

The lessons to be learned from the Berlin sewage farms were:—1st, that where the land was suitable and the management careful, land was the best purifier; and 2ndly, that where these conditions were observed, land never lost its power of purification.

He had stated before that the first condition for a successful sewage farm was a favourable subsoil, and the second, on which he would lay, if possible, more stress, was the management. All farmers knew that an ordinary farm, in order to be a success, must be well managed, and this was still more the case with a sewage farm, where the management was far more difficult. It had often happened that a sewage farm, after being well laid out by the engineer, had been handed over to the town authorities, who, not in the least understanding or realising the difficulties of the case,

appointed a very second-rate man to manage it. The results could only have been disastrous, and the wonder was, not that some few sewage farms had failed, but that a far greater number of them had not failed. A sewage farm must be likened to a piece of complicated machinery that required great care and skill in handling, otherwise it would break down.

All watershed authorities should have full power to keep the management of a sewage farm up to the mark, and should be assisted in this by the Board of Agriculture, whose inspectors should examine the farms periodically and report upon their condition. This Board ought also to undertake the collection and compilation of statistics bearing upon sewage farms, as it was, of course, of the utmost importance to be able to compare the success or failure under certain conditions. With a better and more intelligent management farms would have a far better chance to purify the sewage, and the money sunk in them would not then be wasted.

In these days of agricultural depression, where vast tracts of land were getting out of proper cultivation or were actually lying waste, surely it was but right to give the land all the help possible.

Though this country would always be dependent for its food supplies on other countries, yet every attempt to minimise this dependence must be considered from a national point of view, and should be encouraged.

Colonel A. S. JONES, V.C. (Visitor), said that the views expressed by the previous speakers coincided with his own in almost every particular; but one or two facts seemed to him to be worth emphasising still more distinctly—notably, those brought out by the Berlin experience, spoken of by Mr. ROECHLING. He felt that the whole success of sewage-

farming depended on proper management. In Berlin, the matter had been taken up systematically, and on a large scale, and, as a result, the distribution of the sewage over the land (which was a most important point, both sanitarily and agriculturally) had been most satisfactory. The labour bill appeared to be, in proportion, about three times as much as that upon the very best managed sewage farms in England, and he found that the results of that greater expenditure on labour not only produced, sanitarily, a better effect, but, financially, a better balance-sheet. He thought it most unfortunate that, in England, our practice had been to simply "lay out," as we called it, a sewage farm, the Local Government Board having no further control or care beyond the fact that so much money was borrowed for the purpose. However well it was laid out, there was much left to be dealt with by a committee of townsmen with other things to attend to. Then the Vestry would interfere with the manager, who had perhaps very little influence with them, and was, consequently, always afraid to act decisively. The management of a sewage farm was different from that of any other farm, in that everything was done more rapidly. The growth of the crops was very much faster than in the case of an ordinary farm, and, as the produce accumulated suddenly, the market had to be studied if there was to be any financial result at all. It required decisive management, and if the manager had little influence with his Board, he would be afraid to act when it might be necessary to get a crop off the ground at any sacrifice,—he would hesitate, and it would be lost. That was only one example of what might occur in the management of a sewage farm, and he was only surprised that sewage irrigation over land had held its ground as it had done, in spite of the disadvantages it had been subjected to.

In every precipitation scheme somebody was interested

in one way or another, but nobody cared about the land except the landowners, who sometimes complained of a sewage farm as a nuisance, while it was no one's business to make it a success. Another point was that everything on a sewage farm was done before the eye of the public. He hardly knew of a sewage farm that was not bounded by roads or traversed by footpaths, and thus open to the public observation day and night. On the other hand, he knew of no precipitation works on which anybody might go day and night to see what was being done. Tickets were issued for show days, and beautiful effluents were exhibited, but it was more than doubtful if the standard was always kept up to that of the show days. This should be borne in mind when the rate-payers' money was being spent in providing extensive chemical works where land might be available from which some return might be got, while the chemicals were really thrown away.

Dr. C. R. DRYSDALE (Visitor) said that in his native city of Edinburgh there was, he believed, the oldest sewage farm known, with the sole exception, perhaps, of that at Jerusalem, which was even more ancient. The sewage farm of Edinburgh, with which many Members were, no doubt, acquainted, was about 200 years old. It happened that when his father was a magistrate of that city there was great difficulty in keeping up that sewage farm. A large number of the inhabitants voted it a nuisance, but at the present day there was very little complaint indeed, and, as had been said by Mr. ROECHLING, the farm added very considerably to the food supply.

In 1878 he was present in Paris with the Medical Association, and the famous engineer, M. DURAND CLAYE, took them over a sewage farm, which was a new thing at that time in Paris, and about which there was some difficulty.

It was said that it would never come to anything, that it was very bad for the health; that people suffered so much from it that it would never be allowed; but M. DURAND CLAYE came to the conclusion that there was no other way of treating sewage in Paris. He tried other chemical processes, about which so much had been said in the course of the discussion—processes which were, he feared, often most strongly advocated by persons having a considerable interest in chemicals. M. DURAND CLAYE made many experiments in Paris, but found that there was no chemical treatment which really had much effect on the sewage, while whole fields along the side of the river were often covered with abominable precipitates.

At the present moment the plain of Gennevilliers was better cultivated than any part he was acquainted with near Paris, and grew the heaviest crops of every description. The peasantry, being all small proprietors, had a right to farm the land as they pleased, and they had all adopted sewage-farming, although they were much against the system at first. The same remarks applied to Berlin, and there were few nations so scientific as the modern Germans, who came over to this country to gather information as to how English sewage farms were carried on. They also visited the Paris sewage farms, which were so successful, and then returned to Berlin, and, as Mr. GRANTHAM had said in his admirable Paper, had now nearly 19,000 acres under treatment.

But London, a city of nearly $5\frac{1}{2}$ million inhabitants, had not one single acre of ground experimented upon for this purpose. He wondered who was responsible for this. Could it be that the ratepayers were so very supine, or was it that there was no body of scientific men to guide the Government? He did not know, but it was certain that our present system of treating the London sewage with

four grains of lime and one grain of sulphate of iron per gallon, and then emptying vast quantities of sludge into the mouth of the Thames, was costly, unscientific, and insanitary.

Again, the system in Dublin was as bad as could well be, and that at Glasgow seemed little better. There was a magnificent river, but polluted in the most horrible way. And yet it was said that it was inadvisable to have too high a standard of purity for our rivers.

The result of river pollution was plain enough last year at Hamburg, where the unfortunate people were carried off in thousands by cholera, because they were too lazy to make the water supply pure.

The subject was one of the very greatest importance, and he was glad to have been able to take part in the discussion, not only to express his appreciation of Mr. GRANTHAM'S Paper, but also to add his protest to those already uttered, against the supineness and apathy, on the part of the public, with respect to all such matters. He believed that London must depend, in the near future, either on the scheme proposed by Mr. WILLOUGHBY HEMANS, of taking the sewage of London down to the Mappin Sands, or, on Col. JONES'S more modest plan, of taking it halfway down. If that could be successfully carried out, the rivers of London might be once more pure.

Dr. A. DUPRÉ (Visitor) said he was present mainly in the hope of hearing, from gentlemen practically engaged in the work, of some of the difficulties met with in the disposal of sewage, for without a knowledge of such facts it was impossible for a scientific man to give advice.

He was happy to be able to agree with Mr. GRANTHAM in much that he said in his valuable Paper, as, for example, that no given sewage treatment is universally applicable alike

under all circumstances, and that profit is not to be expected from the utilisation of sewage, and other points which he need not then enumerate. Turning to points of disagreement, he must first express his belief that no chemist nowadays doubted that rivers possessed the power of self-purification. It must be remembered that both Dr. TIDY and Professor FRANKLAND, during their long controversy, entirely overlooked the real agency to which the destruction of the organic matter is due. Now, however, since it had been proved that this destruction was practically due in water, as in the soil, entirely to living organisms, no further doubt as to the power of self-purification was possible. This power depended solely on the number and character of the organisms present and the amount of oxygen they could obtain. Small as these organisms were, they were capable by their numbers and activity of destroying enormous quantities of organic matter. As to the amount of water necessary, his own experiments had shewn him that one volume of London sewage was capable of abstracting the total amount of available oxygen from 25 to 30 volumes of fully aerated water. If it were mixed with 100 volumes it would abstract no more. Fifteen times the volume of water to one of sewage, as given by PETTENKOFER, was, therefore, certainly too small an allowance for London sewage. Thirty times the volume should be the minimum.

This, however, referred only to untreated, unclarified sewage. Sewage that had been treated, chemically or otherwise, required far less dilution, and when properly treated, a dilution of two or three times would be sufficient, while in special cases no dilution at all might be necessary. There was surely some mistake in the statement attributed to Professor P. FRANKLAND that the apparent purification was due to sedimentation. If sedimentation could precipitate the dissolved organic carbon or nitrogen, it would surpass

any chemical treatment yet devised. Probably Professor P. FRANKLAND referred solely to living organisms.

It also seemed to him (Dr. DUPRÉ) that there was some exaggeration in the statement that some towns on the Merrimac suffered from typhoid fever, although the sewage from the towns above was diluted with not less than 600 volumes of river water. If this were so, it seemed marvellous that there should be anyone alive in London. With regard to various methods of purification, he had always acknowledged that if land of proper quality were available, and it was necessary to have an effluent which, if need be, could be left without any dilution, treatment on land was the proper method to adopt. But no treatment, be it chemical or sewage farming (using this term in its widest sense as including all treatment of sewage on land), would or could be effective, unless it was intelligently and carefully managed. The undoubted success of the Berlin sewage farms was due, in the first place, to the fact that the land was highly suitable, and, secondly, and perhaps mainly, to the extremely careful and intelligent management. All the working men on the farm were under a strict, almost military, discipline, which in Prussia, where every man has been a soldier and retains much of his military discipline throughout life, it was possible to exercise, but which would be very difficult here. The Berlin sewage, compared with London sewage, was also, comparatively speaking, fresh sewage. Sewage-farming, unless the land was suitable and the management extremely good, was often a very serious nuisance, and the effluent produced was bad. Here he might point out a very common mistake made by advocates of sewage-farming, namely, the comparison of the effluent from the farm with the effluent from the chemical precipitation works. The river into which the latter effluent was discharged must, in a measure, be looked upon as taking the

place of the sewage farm, and he maintained that if the river was suitable it did its work as effectively and with far less nuisance than the ordinary sewage farm. The whole surface of the river Thames, from Barking to the Nore, was about equal to the smallest sewage farm proposed for London.

Turning now for a moment to the chemical treatment of sewage, the first fundamental point to be grasped was that no purely chemical treatment, except treatment by permanganate, would do much more than clarify the sewage by removing the suspended matter, but would leave the matters in solution almost unaffected. The most rational treatment was, therefore, to use the minimum amount of chemicals which would effect this clarification. Any excess of this amount was needless waste of money, and led to mischief. The amount of chemicals to be used should, therefore, be such that little or no part remained in solution and ran away in the effluent. If any appreciable proportion were left in the effluent, it would produce secondary injurious effects in the river into which the effluent was discharged. Many of the complaints made against chemical treatment arose from this cause. The chemicals added should do their full work in the precipitating tanks, and not partly in the tanks and partly outside. He looked upon the small amount of chemicals proposed by Mr. DIBDIN and himself for the treatment of London sewage as one of the chief advances made of late years in the chemical disposal of sewage, and he was glad to notice that the system was followed in many parts of the country. But even when this was done the effluent produced was not such as could with safety be discharged into a relatively small river.

In such circumstances something more was necessary, and in the case of London sewage Mr. DIBDIN proposed the addition of a small amount of manganate and sulphuric

acid, and this was no doubt very effective, but was open, perhaps, to objection on the score of expense, and it was often cheaper to treat the chemical effluent, either by irrigation on land, or—and this he thought the best solution of the problem, and one applicable in most places—the effluent should be filtered through some suitable filtering medium. Some experiments carried out last year by Mr. DIBDIN shewed that various cheap filtering media were available through which sewage can be filtered effectively at a rate of from 250 to 500 gallons per square yard per day of eight hours, leaving the filters emptied and at rest for the remaining 16 hours. Much had been said by Dr. DRYSDALE about restoring the beauty of our rivers, and he (Dr. DUPRÉ) did not at all object to beauty, but beauty might be purchased too dearly. It reminded him of Mr. RUSKIN's wish to abolish all railways and steam engines in order to restore the beauty of our landscapes, and to line the Thames from Chelsea downwards with a row of palaces at an expense of only £40,000,000; but would anyone in that room, or out of it, agree to this?

He had always maintained that all a local authority could be expected to do, or ought to do, was to dispose of the sewage without injury to health, and with the minimum amount of nuisance. They were not justified in trying, at the expense of the ratepayers, to produce an ideal effluent where it was not wanted, and a chemical treatment of the sewage, combined with filtration, seemed to him the best for general purposes.

Mention had been made by Major FLOWER of the strong colours in which some witnesses before the Royal Commission painted their evidence. It seemed to him, however, that Major FLOWER's colouring regarding the pollution of the river Lee was done in a very weak water colour, and that he would find, if he would only look for them, that

some very serious pollutions did get into the Lee; pollutions the foul appearance and smell of which it was not easy to exaggerate.

Mr. E. BAILEY-DENTON (Visitor) said that he had read Mr. GRANTHAM'S Paper with great interest. He desired to confine his observations to one of the many important questions raised by it, and would refer first to Table No. 2 on page 409, which related to sewage farms where irrigation was combined with intermittent filtration. He had no hesitation in doing this as he was a member of the firm which had in each case carried out the works mentioned. He did not propose to go into detail in every instance, but to bring forward all the information possible up to date in the case of four farms, which were typical instances of a variety of soil. These farms were laid out about fifteen years ago, and therefore by this time no doubt need be entertained as to their permanent efficacy. The places he referred to were:—

- (1) Dewsbury, population 30,000.
- (2) Forfar, „ 13,000.
- (3) Gt. Malvern, „ 10,000.
- (4) Abingdon, „ 6,500.

Dealing with the character of the soil, the farms might be placed in the following order:—

(1) Abingdon—Gravel; no loam. The best soil obtainable. Most favourable.

(2) Forfar—Sandy and gravelly; some loam; very favourable.

(3) Dewsbury—Free soil, but loam in various parts of the farm; favourable.

(4) Malvern—Loamy throughout, with some clay; not unfavourable.

At Abingdon, such unusually favourable conditions exist that it hardly afforded a criterion for other examples.

The extent of the farm as originally laid out, and still sewaged was 34 acres, $27\frac{1}{2}$ being for wide irrigation and $6\frac{1}{2}$ for intermittent filtration. But as far as the disposal of the sewage is concerned, not only were the $27\frac{1}{2}$ acres not required, but less than half of the $6\frac{1}{2}$ acres of filtration areas would suffice to do all that was necessary. This practically meant that 3 acres of such land would purify the sewage of 6,500 people, or an equivalent to 2,166 people to the acre, which, with the ordinary dry weather flow of 200,000 gallons per day, gave 66,666 gallons to the acre.

To shew that the disposal of sewage there is permanently satisfactory he would here quote a letter from the borough surveyor of the town, dated the 29th April last, in which he said :—

“(1.) The sewage of Abingdon is disposed of on the “sewage farm as satisfactorily as when the farm was laid “out.

“(2.) The filtration areas will still purify the sewage of “the town when it is desired that they should do so.

“(3.) It is not observable that the pores of the soil are “at all choked up.

“(4.) The effluent is very good, remarkably clear and “bright.”

The case of Forfar was an excellent example of the combined treatment of wide irrigation and intermittent filtration, for the soil was not so exceptionally free as at Abingdon, and there were numerous towns in England and Scotland as favourably situated with regard to soil, which could get rid of their sewage in a similar manner.

The area of the farm sewaged, when originally laid out, was twenty-four acres, seventeen of which were laid out for irrigation, and seven for intermittent filtration. The area was the same to-day. Under ordinary circumstances the filtration areas were still capable of absorbing and cleansing

the whole of the sewage of the borough when it is not distributed over the irrigation land, as is frequently the case for weeks together. Under such circumstances the sewage of 1,857 people was continuously applied to the acre, which, the average flow discharged being about 500,000 gallons daily, was equivalent to 71,400 gallons to the acre. But when the sewage was applied to the whole of the twenty-four acres, the rate of population to the acre would be only 520, or an equivalent of 20,800 gallons, occasionally increased, when the discharge of sewage was raised to 600,000 gallons a day, to 25,000 gallons to the acre. An extract from a letter from the farm manager, dated May 2nd, 1893, would shew that the success of this farm was permanent. He said :—

“1st. The sewage is disposed on the farm quite as satisfactorily as it was when the farm was first laid out.

“2nd. The filtration areas will purify and dispose of as much sewage as they did at the commencement.

“3rd. I do not notice any difference in the soil, but, of course, good and deep cultivation will have a great deal to do with that.

“4th. The effluent is good and very clear to look at, and I cannot detect either smell or taste.”

He placed Dewsbury in the third position, because the soil, though favourable, partook of a more mixed character, and because, with a population of over 30,000, there were no screening tanks, although there was a considerable quantity of trade refuse. Had there been any deposit tanks the area used for sewage might have been less.

The system adopted was the same as in the previous instances.

Practically, seventy acres constitute the sewage farm; of this area fifty acres are filtration beds, and twenty acres wide irrigation.

When the filtration areas only were absorbing the sewage of the town, which they do for months together, the population to the acre was 600, or an equivalent of 25,000 gallons, the daily quantity of sewage discharged on to the farm being 1,250,000 gallons. The rate of population was diminished to 430 people to the acre, or an equivalent of 17,800 gallons when the whole seventy acres was brought into requisition.

In the report of a Committee of the Leeds Corporation, dated January 12th, 1893, they say:—

“Frost does not interfere with the purification of the sewage. When the land has been thoroughly frozen, and becomes frostbound, turning sewage upon it will unbind the land in about eight or nine hours. This was experienced in a remarkable manner this winter.”

To shew how the sewage successfully infiltrates the soil:—

“About two years ago an attempt was made, by flooding one of the areas, to make a skating rink of it; but next morning, although a hard frost had prevailed meantime, the sewage had all disappeared into the land.”

And they further say that:—

“The land is apparently as good as ever for the purpose for which it is used, and the experience gained on this low-level land is, from the Leeds point of view, a valuable one.”

“Each section in turn is flooded for three successive days, by which time it has the appearance of a small reservoir. The water, however, disappears from the surface in four or five hours after ceasing pumping.”

Malvern he placed last in the series because the land to which the sewage is applied is not, without special and careful preparation, favourable to the purification of sewage. Indeed, most towns in Great Britain, where land treatment

is under any circumstances practicable, would be able to secure land naturally more suitable to the object in view.

Since the farm was originally laid out, 14 years ago, the population had increased, and other districts had been added to the jurisdiction of the local board, with the result that his firm were called in, some two years ago, to advise as to what should be done to accommodate and purify the increased flow. This they did successfully, not by increasing the area of the farm, but by increasing the porosity of the soil by additional under-drainage of the filtration areas, although in all probability the use of further land would be advisable within the next few years, because of the growing popularity of Great Malvern, both as a summer and winter resort. The result had justified their expectations.

In 1893, as in 1879, the farm consists of about 38 acres actually sewaged, 11 acres being filtration areas of one acre each, and 27 acres wide irrigation.

All the irrigation land being devoted to rye grass, potatoes, or cereals, it followed that very frequently for long periods the sewage was only applied to the filtration areas. At such times the beds absorbed the sewage of about 900 people to the acre, or, at 35 gallons per head, 31,500 gallons; whilst, when the whole available land was brought into requisition, the rate of population was reduced to 263, or an equivalent of 9,000 gallons.

It would be remembered that last winter was not a dry one; but although November and December were wet, the waterman in his weekly return stated that at the end of each week in the former month 4 acres out of the 11 were standing dry, whilst at the end of each week of the latter month 5 acres were in a similar condition. His weekly returns shewed that during this period there was a uniformly good effluent, and that every drop of sewage discharged on to the farm was passed through the soil.

The causes of sewage farms not having recently grown in popularity were, he thought, first :—That when the engineers employed by towns turned their backs upon the place, the man in charge frequently thought more of successful cropping than successful sewage purification, and either turned the sewage bodily into the outfall brook, or, in order to get rid of the sewage quickly, adopted a faulty system of shallow under-drainage, or that the local authority neglected to take the necessary steps for the exclusion of storm waters as far as practicable. Recently, in the case of a town in the neighbourhood of Manchester, where his firm had laid out a sewage farm of about 80 acres for the population of about 30,000, on the distinct understanding that surface waters were to be excluded as far as possible, not only did the authority not do what they had promised in this matter, but they added fresh districts to their own without increasing the area of the farm, with the result that, in order to get rid of the increased quantity of sewage, they had to take some action. In the dilemma they did exactly what they ought not to have done, for they followed the advice of their local surveyor, who did not understand the subject, and added to the existing deep under-drainage numerous shallow under-drains three feet deep, placing in the trench one foot of ashes immediately over the pipes, the remaining depth being filled up with loose sods. The result, of course, was a bad effluent, and visitors and deputations, seeing the bad result, without having been told the real reason, of course left with the idea that the farm was a failure and the system a rotten one.

It would materially advance the solution of the sewage question if Corporations and Local Boards were to see that the original aim and object, for which their sewage disposal works were carried out, was *maintained* by the local surveyor

when the engineers employed had handed over the works on completion.

A second reason which had militated against the good name of sewage farms, but which was not likely to do so for very much longer, was the plausible language contained in the trading circulars of chemical companies, who, often to further their own purposes, and secure a dividend for their concern, made misleading comparisons between land and chemical treatment.

The British public were never averse to change, and were frequently gulled into adopting a precipitation scheme where land was available, because they were led to believe by the representations of these companies that they were going to be relieved of trouble and expense.

The broad assertion by such persons, who generally know but little about agricultural questions and still less about sewage farming, that the application of sewage to land generally resulted in a failure, was absurd. Everyone must admit that there were instances in which chemical treatment must be resorted to, in preference to land treatment alone, owing to the surrounding circumstances, but even then the Local Government Board insisted that it should be supplemented by land treatment to the extent of one acre for not more than 2,000 people. In the case of sewage farms, any defects were apparent to all passers-by, as it was seldom that they did not abut on some public road or footpath; but, in the case of chemical works, enclosed by a high wall and jealously guarded from inspection, it was very different, and, except on show days, the probability was that the effluent would not be as satisfactory as it would be in nine out of ten sewage farms.

If sewage disposal by means of land were a failure, would the Germans, essentially a nation of chemists, have resorted to it as at Berlin and elsewhere? Would the

towns of Northampton and Coventry have recommended it within the last three months in preference to chemicals?

It would, he thought, be better for local authorities and surveyors, instead of attaching undue importance to the often exaggerated statements of persons interested in either one or other of the various methods in vogue, to recognise the fact that no one system is applicable to every case, and that it is better to be guided by the practical experience of unbiassed engineers than by the high-flown statements of enthusiasts. He trusted that the data which he had given might prove of value to those seeking for information upon the question.

Mr. H. G. ASSITER (Professional Associate) said that, although he felt considerable diffidence, as one of the younger Members of the Institution, in joining in the discussion with such eminent specialists as had preceded him, he would venture to call attention to one or two points which had not, he thought, been touched upon in the Paper, nor alluded to in the discussion.

Some of the speakers had condemned chemical treatment, but he was afraid they were prejudiced by being interested and engaged in the laying down of sewage farms, and he would be glad to learn how they would propose to treat a district where sufficient land was not available for working on the broad irrigation system. Again, the sewage of manufacturing towns, such as Birmingham and Wolverhampton, contained a large amount of mineral substances, altogether unsuitable for vegetation, and something must be done to remove those injurious constituents from the sewage before it could be spread on the land to benefit it in any way. Lime was very largely used as a precipitant on account of its cheapness, although it was not the best, from a chemical point of

view, but he thought that lime alone should not be used where the effluent water was discharged at once into a river, because lime, unless it was, in turn, altogether precipitated by some other agent, was very injurious to fish and all animal life in the river. The addition of sulphate of alumina secured the total precipitation of the lime, and rendered the effluent innocuous. From what he had seen of sewage disposal works, he was inclined to favour a combination of the two processes — first, precipitation, and then dealing with the effluent by running it over the land.

Mention had been made of the wonderful promises set forth in the circulars issued by the proprietors of different precipitating processes, and he had in his hand a circular from one of the best known of them, in which it was said that for the compressed sludge cake a ready market could be found at £3 10s. a ton. He had also with him the yearly report of the Local Board of Wimbledon, where, for some years, the combined system of precipitation and irrigation had been in use, and their surveyor reported that he could find a ready market for the sludge, but the price he got for it was only 1s. a ton.

He did not think that, in discussing this question, too much stress should be laid on the possible profit to be made. If the sewage could be effectually got rid of at the least possible cost to the ratepayers, the first and greatest desideratum had been attained.

Mr. C. H. COOPER (Visitor) said that the method advocated by Dr. DUPRÉ, namely, the addition of a small amount of lime and protosulphate of iron, produced the best effect on the sewage it was possible to get by chemical treatment. This was clearly demonstrated by the Massachusetts State Board of Health, who, as well as going into elaborate

experiments in filtration, had also thrashed out the chemical part of the question. Dr. DUPRÉ had answered Mr. GRANTHAM'S question as to chemists being at variance as to the purification affected by rivers, which is due to the free oxygen in the river water. Typhoid fever had been referred to, but he thought it was well known that typhoid fever was conveyed a long way by water, and it needed very little pollution when a stream was contaminated with the excreta of patients suffering from typhoid.

In his Paper, Mr. GRANTHAM said that there was some degree of unanimity of opinion on certain points, one of which was the separation of sewage from surface water. He (Mr. COOPER) could not at all agree with that, for he thought it was the greatest mistake possible to separate those two forms of sewage, for surface water was nothing less than sewage, if the washings of the streets were included. The first water coming off in storms was highly polluted, and should not be admitted into any river. That the effluent of the London sewage into the River Thames should be much more largely diluted, he thought was quite impossible. The water supply was, he thought, something like one-third of the amount of water coming down the river in dry seasons. At the present time there was the greatest possible danger of the river being polluted. The amount of free oxygen in the river had been reduced almost to a minimum, and if the warm weather and drought continued a little longer the water would soon become foul.

Mr. GRANTHAM, in reply, desired heartily to thank the Members and Visitors who had so very kindly added to the interest of the discussion by speaking on his Paper. He was afraid there would not be time to reply in detail to all the observations that had been made, but he would first of

all refer to the remarks of Mr. WILLIS BUND, from whom he did not think that he differed except in regard to County Councils.

He thought Mr. BUND's observations as to the unsuitability of applying any one process under all circumstances to different towns were certainly just. It was impossible to suppose that every town could be in the same circumstances, and that the sewage of all could be dealt with in the same way. He thought Mr. WILLIS BUND would find in his Paper, referring to the examples he had given, that he said no one system was applicable to all the various towns that had to be dealt with.

It was most necessary that the land for a sewage farm should be of suitable quality. Many mistakes were made in choosing clay land, or land containing too much loam, for it was important that it should be light soil—either sand or gravel, such soil as that which was referred to by Mr. BAILEY-DENTON—in order that the effluent should be perfectly purified.

As to the County Councils, Mr. WILLIS BUND recommended that a River Conservancy Board should be adopted for each river basin. That question, he thought, was discussed in that room 12 or 14 years ago, and yet the establishment of River Conservancy Boards did not seem much nearer. At the time when Mr. RITCHIE's Government was in power, it was suggested that River Conservancies might be dealt with by joint Committees of the County Councils.* Whether that was a good plan or not he would not venture to say, but there were no such Conservancy Boards at the present time. No other authorities than the County Councils could deal with pollution, and he was sorry to find that, as Mr. WILLIS BUND said, they were offenders themselves, when they ought to be rather the preservers of the purity

*The *Morning Post*, February 7th, 1891.

of rivers. At the present time he did not see who else could be invested with powers to investigate the question.

He thought Dr. DUPRÉ answered Major FLOWER. He had met a good many surveyors, and he doubted very much whether any of them would be quietly displaced by medical officers or anybody else.

As to Wheathampstead, he believed Dr. TURNER made a statement that it was not a chemical process, but a precipitation process, but as Major FLOWER contradicted that and said there was no precipitation and no appreciable pollution, Dr. TURNER must have been mistaken.

He agreed with Colonel JONES, as he had said in his Paper, that everything depended on management. Directly the engineers had finished the work and left the farm, it was often handed over to persons who did not understand the treatment of sewage, and sometimes leased to tenants, whose first object was to get the most they could out of it without caring for the purity of the effluent. Everything, as Colonel JONES said, depended on management after the engineers had left it.

There was one point on which he hoped Dr. DRYSDALE would allow him to correct him. He said there was not a single acre experimented on with the sewage of London. He had that day seen Mr. CRIMP, who told him that they had just laid out one acre for experiments, although hitherto they had conducted experiments on a smaller scale.

It was generally admitted, he thought, that there had been an improvement in the state of the river at the Barking and Crossness outfalls, and it stood to reason that at certain times the abstraction of two million or two and a half million tons of sludge in the year must effect some improvement, but at the same time, in this dry weather, careful attention should be paid to the state of the river. He was very glad to hear from Dr. DUPRÉ that chemists

had agreed as to the self-purifying powers of rivers. He did not think he had misquoted Dr. PERCY FRANKLAND in what he said as to the results of his observations, that the apparent purification was due to sedimentation, a process which can never guarantee absence of danger. At the same time he observed that Dr. DUPRÉ said that the proportion of the volume of sewage to river water should be $\frac{1}{30}$ th, whereas Professor PETTENKOFER said it should be $\frac{1}{15}$ th. He should say $\frac{1}{30}$ th would be much safer, but as to the 600 gallons of river water to one gallon of sewage, as mentioned in the report of the Massachusetts State Board of Health, he could only say that it was in that report, and that they had taken great pains to investigate all these matters.

Mr. BAILEY-DENTON had referred to figures bearing on intermittent filtration. He pointed out that the whole of the sewage was used at times on the filtration areas; but he did not suppose he would contend that it would go on for the whole year, but taking all the year round and one year with another, subject to the variation of the crops, he thought his figures applied.

The only other point to which he need refer was Mr. COOPER's remark as to the separation of sewage from storm water. Mr. COOPER said that a very small percentage of the volume of sewage came from storm overflows. He thought that shewed that the sewers were much too large for sewage alone, and he still held that it was better to keep the rainfall from the roads out of a sewer that was intended for sewage. The impurities in storm water did not appear to him to be likely to cause nuisance. He thought in inland towns—he did not speak of London—it was most important, in dealing with sewage, that the volume to be dealt with, both in the chemical and irrigation works, should be as little as possible. He thought it was most

disadvantageous on a farm to have a great quantity of rain-water flooding the whole surface.

THE PRESIDENT said he should like to refer to the fact that in a Paper read by Dr. ALLEN STURGE, a son of their Past-President, Mr. STURGE, in 1879, in which reference was made to the farm of which Dr. DRYSDALE had spoken, it was stated that the closest point of the farm of Gennevilliers was only about $1\frac{1}{2}$ miles from the walls of Paris. The main conduit was about 12 miles long. In 1879 there were 914 acres in sewage cultivation. The point to which it was proposed to carry the London sewage was the Mapplin Sands, which were many miles from London. The sewage farm of Paris was much exposed to the fire of guns in the siege of Paris, and the engine house and part of the main conduit were destroyed. An Honorary Member, M. Lefevre, also sent a communication with reference to this farm, which appeared in the "Transactions" in 1879.

The vote of thanks having been put and carried unanimously, the Meeting then adjourned.

THE ANNUAL GENERAL MEETING,

Monday, May 29th, 1893.

CHARLES JOHN SHOPPEE (PRESIDENT) in the Chair.

The Report of the Scrutineers, appointed at the Ordinary General Meeting of Monday, May 8th, 1893, under the provisions of Article XLII. of the Amended By-Laws, was read to the Meeting.

The Report declared that the following had been elected a

COUNCIL FOR THE ENSUING YEAR.

President.

CHARLES JOHN SHOPPEE.

Vice-Presidents.

THOMAS CHATFEILD CLARKE
DANIEL WATNEY

ALEXANDER MILNE DUNLOP
CHRISTOPHER OAKLEY.

Members of Council.

ROBERT VIGERS
THOMAS MILLER RICKMAN
ROBERT GEORGE CLUTTON
JOHN SHAW
ARTHUR GARRARD
WILLIAM MATHEWS
JOHN CROSS
JOHN F. L. ROLLESTON

ARTHUR VERNON
HENRY DREW
FRED. THOS. GALSWORTHY
ARTHUR BUCK
HERBERT THOMAS STEWARD
CHARLES BIDWELL
RICHARD HORSFALL
WILLIAM WRIGHT

Professional Associates of Council.

EDWARD SMYTH
JOSEPH HENRY SABIN

Associates of Council.

SIR RICHARD EVERARD WEBSTER, Q.C., M.P.
JOHN WOLFE BARRY

The Report of the Council on the state of the Institution and the Statement of Receipts and Expenditure for the year 1892 were read.

IT WAS RESOLVED—"That the Report of the Council and the Balance Sheet be received and approved, and be printed and circulated with the 'Transactions.'"

IT WAS RESOLVED—"That the thanks of the Institution be given to MESSRS. H. C. NEWMARCH and G. CADELL for the efficient performance of their duties as Auditors, and that they be requested to continue their services for the ensuing year."

IT WAS RESOLVED—"That the thanks of the Institution are due, and be given to the President, the Vice-Presidents, and the other Members and Associates of Council, for the able manner in which they have administered the affairs of the Institution."

IT WAS RESOLVED—"That the thanks of the Institution be given to Mr. JOHN WORNHAM PENFOLD (the Honorary Secretary), to Mr. JULIAN C. ROGERS (the Secretary), and the other Officers of the Institution, for the able manner in which they have executed their several duties."

THE PRESIDENT presented the following Prizes won by Candidates in the Professional Examinations, 1893 :—

THE INSTITUTION PRIZE OF THE VALUE
of £15 15s.

To EDWARD WILLIAM EASON, placed first in the Students' Proficiency Examination, 1893.

THE SPECIAL PRIZE OF THE VALUE OF £10 10s.

To ALFRED JOHN MARTIN, placed second in the Students' Proficiency Examination, 1893.

THE CRAWTER PRIZE OF THE VALUE OF £10.

To FRANK AMOS, for the best work in the subject of "Valuations" in connection with the Fellowship Examination, 1893.

THE DRIVER PRIZE OF THE VALUE OF £15 15s.

To WALTER JOHN EASTON, placed first in the Examination (1893), for Non-Student Candidates for the Class of Professional Associates.

A CONSOLATION PRIZE OF THE VALUE OF £5 5s.

(Offered by THE PRESIDENT.)

To JOHN JENKINSON, placed second in the Examination (1893), for Non-Student Candidates for the Class of Professional Associates.

IT WAS RESOLVED—"That the thanks of the Meeting be given to Messrs. C. H. BEDELLS, H. J. DOWDEN, G. H. MOULD (Fellows), and C. H. HOOPER and J. W. TYLER (Professional Associates), for their services as Scrutineers."

A vote of thanks to THE PRESIDENT for his conduct in the Chair was passed unanimously.

THE TWENTY-FIFTH ANNUAL REPORT OF THE COUNCIL.

Annual General Meeting, May 29th, 1893.

In view of the recent fundamental change in the system regulating the admission of new Members, some diminution might naturally have been looked for in the numbers of all classes on the roll of the Institution.

The following table shews that the number of Members is practically the same as in May last:—

TABLE A.

	Honorary Members.	Fellows.	Professional Associates.	Associates.	Students.	Total.
May 1893	13	1,629	353	93	181	2,269
May 1892	11	1,646	342	97	172	2,268
	+2	-17	+11	-4	+9	+1

There has been an increase of 2 in the number of Honorary Members, of 11 in number of Professional Associates, and 9 in the number of Students, or 22 in all, from which must be deducted a decrease of 17 in the number of Fellows, and 4 in the number of ordinary Associates, leaving a net increase of 1 in the twelve months since the date of the last Report.

The decrease of 17 in the number of Fellows is accounted for by 12 deaths and 18 cessers of Membership, from various causes, as against 13 transfers from the class of Professional Associates.

The diminution of 4 in the number of ordinary Associates is accounted for by 2 deaths, 1 cesser of Membership, and 1 transfer to the class of Honorary Members.

The increase of 11 in the number of Professional Associates represents 45 elections as against 3 deaths and 18 cessers of Membership, and transfers to the Fellowship as above.

The number of cessers of Membership (36) in the two classes of Fellows and Professional Associates includes 24 struck off the list for various reasons which it is needless to specify.

The number of deaths during the year has been 18 as compared with 31 in the year 1891-92. Among them were the Rev. JOHN CONSTABLE (formerly Principal of the Royal Agricultural College, Cirencester, and for many years an Honorary Member of the Institution), Mr. EDWARD RYDE, President 1880, 1881, 1882, and Mr. R. L. COBB.

By the death of Mr. RYDE the Institution has lost one of its ablest Members, and the Council an esteemed colleague. As an original Member, and connected with the governing body of the Institution from its earliest days, it would be impossible to exaggerate the value of his services, whether at the Council Board and in connection with its various Committees, or as a voluminous contributor to its "Transactions" and discussions.

The Council have also to deplore the death of Mr. R. L. COBB, who was a Member of the Executive for seven years, but retired from administrative duties in 1889.

The Institution has lost another leading Member by the death of Mr. ROBERT CASTLE, of Oxford, who, notwithstanding the claims of a large practice, filled with marked zeal and efficiency the office of Chairman of the Berks, Bucks, and Oxon Provincial Committee for the years 1890-92.

The following table shews the increase of Membership, year by year, since the foundation of the Institution in 1868 :—

TABLE B.

	Members (or " Fellows " after 1881).	Associates.		Students.	Total.
		Professi- nal.	Ordinary.		
May 1869 ...	162		38	2	202
" 1870 ...	180		59	2	241
" 1871 ...	190		65	2	259
" 1872 ...	205		67	4	276
" 1873 ...	225		74	5	304
" 1874 ...	247		89	6	332
" 1875 ...	275		101	11	387
" 1876 ...	300		119	8	427
" 1877 ...	310		133	11	454
" 1878 ...	312		134	8	454
" 1879 ...	330		146	10	486
" 1880 ...	342		155	10	507
" ¶ 1881 ...	357		164	14	535
" 1882 ...	480		235	7	722
" 1883 ...	557	218	74	38	887
" † 1884 ...	666	307	80	58	1121
" 1885 ...	703	317	86	86	1192
" 1886 ...	716	316	84	80	1196
" 1887 ...	741	339	89	108	1277
" 1888 ...	798	333	90	102	1323
" 1889 ...	910	334	89	110	1443
" 1890 ...	1095	310	89	123	1617
" † 1891 ...	1374	336	96	140	1946
" 1892 ...	1646	342	97	172	2268
" 1893 ...	1642	353	93	181	2269

* After August 1881 " Members " were designated " Fellows," and in 1883 " Associates " were divided into " Ordinary " and " Professional " Associates.

† The Compulsory Examination for Professional Associates came into operation in 1884.

‡ The Compulsory Examination for all classes of Professional Members came into operation in August 1891.

¶ The Charter was obtained on August 26th, 1881.

The total number of Members elected during the twenty-five years of the existence of the Institution has been (omitting Students, included in the above table), 2,561, of whom 210 have died, and 216 have from different reasons ceased to be Members.

FINANCE.

The accounts for the year 1892 shew a decrease of £610 in the amount derived from Fellows' subscriptions, accounted for by the large number of new Fellows elected in November 1891, and whose first subscriptions covered the year under review. This difference will consequently disappear in the accounts for the current year. In the other classes of subscriptions there is an increase of £64.

There is an increase of about £50 in the earnings of the Arbitration Rooms, and £170 in the dividends from invested capital. The increases amount in the aggregate to £283, as against a decrease of £610, or a net decrease of £327 in the receipts on Revenue Account. It is satisfactory to note that the fall in the amount of revenue derived from the Arbitration Rooms, which has been continuous for some years past, has apparently been arrested.

Expenditure.—The ordinary items of current disbursements, excluding examination expenses, the cost of publications, &c., shew an increase of about £425 over the same items of last year. This difference is accounted for by an increase in the item of repairs, amounting to £242 in connection with sanitary works, and an increase in the cost of the Secretarial Department, due to the greatly increased amount of office work in recent years.

The cost of the Examinations has been kept, by means of various economies, almost within the figures of the previous year, although the number of candidates has

increased by nearly 25 per cent. The cost of publishing the "Transactions" is, this year, greater by £123, and of the "Professional Notes" by £85, accounted for, of course, by the necessary enlargement of the edition owing to the great number of Members during the previous year.

The donations to the Library Fund shew a slight decrease in the year, these depending mainly upon the number of elections of new Members. The increase of £215 in the expenditure on the Library is due to an exceptional outlay in acquiring a fine copy of Nichol's "Leicestershire," at the price of £200. The acquisition of this important work makes the topographical collection complete so far as the great county histories are concerned, and the Council felt that the opportunity should not be lost of adding the work to the Library of the Institution. The collection is now one of the finest in London, and one of which any Society might be proud.

Under the head of Capital, the item of Fellows and Associates' entrance fees naturally compares unfavourably with the same item in the accounts of the previous year, when it was abnormally swollen by the great addition to the number of Members elected during 1891. No comparison will be possible between the amounts of this item in future and in past years, for the reason that the Fellows' entrance fee is now partly made up of an Examination fee which goes to Revenue Account, the difference only between the Associates and Fellows' entrance fee going to Capital Account. The only other exceptional item of expenditure is £166, the cost of the installation of the electric light, which the Council hope the Members appreciate.

The following is a Summary of the Balance Sheet for the year ending December 31st, 1892:—

TABLE C. SUMMARY.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Revenue Balance in hand,			Total Payments out of Re-		
January 1st, 1892 ..	233	17 6	venue, Current Expenses	4,662	11 7
Capital Balance in hand,			Purchase of Stock.. ..	2,502	19 8
January 1st, 1892 ..	494	10 1	Examinations	308	7 10
Total Revenue	5,621	14 6	Electric Lighting	166	1 0
Transferred from Library..	800	0 0	Payments out of Capital—		
Entrance Fees carried to			Furniture and Fittings..	32	15 0
Capital Account.. ..	519	15 0	Alterations to Drainage	250	0 0
Interest	577	1 4	Capital Balance in hand,		
Beadel Bequest	200	0 0	December 31st, 1892 ..	291	8 1
			Revenue Balance in hand,		
			December 31st, 1892 ..	232	15 3
	£8,446	18 5		£8,446	18 5

The receipts and expenditure for the current year up to the date of this Report—May 29th, 1893—may be briefly summarised as follows:—

TABLE D.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
Revenue Balance in hand,			Payments out of Revenue—		
January 1st, 1893 ...	192	15 3	Current Expenses ...	2,008	10 7
Capital Balance in hand,			Examinations	290	14 11
January 1st, 1893 ...	291	8 1	Placed on Deposit ...	700	0 0
Total Revenue	5,855	15 11	Purchase of India 3½ %		
Entrance Fees from Capital			Stock	1,433	10 7
Account	13	13 0	Revenue Balance in hand,		
Interest	4	19 0	May 29th, 1893	815	15 1
			Transferred to Library Ac-		
			count	800	0 0
			Purchase of £190 Midland		
			3 % Stock (Beadel Be-		
			quest)	199	5 3
			Capital Balance in hand,		
			May 29th, 1893	110	14 10
	£6,358	11 3		£6,358	11 3

The liabilities at the present time do not exceed £200. Since the commencement of the current year, additions have been made to the Corporation Investments by the purchase of £190 Midland Railway 3 per Cent. Debenture Stock on account of the Beadel Bequest, £1,019 1s. 9d. 2½ per Cent. Consols on Library Account, and £814 9s. 8d. India 3½ per

Cent. Stock on Revenue Account, making the total investments at the present date, as follows:—

£3,545 4s. 9d. $2\frac{3}{4}$ per Cent. Consols, £1,545 Great Eastern Railway 4 per Cent. Debenture Stock, £1,505 London and North Western Railway 4 per Cent. Debenture Stock, and £6,000 India $3\frac{1}{2}$ per Cent., on Revenue Account; £1,558 12s. 10d. $2\frac{3}{4}$ per Cent. Consols on Library Account; £9,030 7s. 11d. New $2\frac{1}{2}$ per Cent. on Capital Account; £254 North British Railway Preference Stock on account of the Crawter Bequest, and £190 Midland Railway 3 per Cent. Debenture Stock on account of the Beadel Bequest.

These investments estimated at current prices represent a sum of £25,061 19s. 6d.

EXAMINATIONS.

The following Table shews the number of Candidates who have entered for and passed the Examinations during the 13 years since their establishment:—

TABLE E.

Years.	Preliminary Examinations.			Professional Examinations.		
	Candidates.	Passed.	Percentage.	Candidates.	Passed.	Percentage.
1881	13	6	46·15	2	1	50·00
1882	30	17	56·66	—	—	—
1883	44	22	50·00	25	22	88·00
1884	51	30	58·82	36	23	63·89
1885	46	37	80·43	43	31	72·09
1886	46	34	78·26	56	38	67·85
1887	53	39	73·58	58	45	77·59
1888	48	39	81·25	73	52	71·23
1889	51	41	80·39	71	51	71·83
1890	53	44	83·01	96	70	72·91
1891	76	60	78·94	92	68	73·91
1892	83	64	77·10	125	93	74·40
1893	77	57	74·00	149	100	67·11
TOTALS	671	490	73·02	826	594	71·91

Of the total number of 149 Candidates who this year presented themselves at the Professional Examinations in Divisions II., III., IV., & V., 60 were from the London District, and 89 from the Provinces.

The aggregate number of marks gained by all Candidates in the Professional Examinations this year was 96,801 out of a possible maximum of 166,300, or a percentage of 58·14 of the marks obtainable, as compared with last year's percentage of 74·40. Of these, 71,530 marks were awarded to the 100 successful Candidates, who thus gained 64·61 per cent. of their possible maximum, while to the 49 unsuccessful Candidates 25,271 marks were awarded, or 45·45 per cent. of their aggregate maximum.

The 30 Student Candidates in Division II. obtained a total of 17,317 marks, or 57·70 per cent. of the maximum of 30,000, their pass-marks being 50 per cent. The 79 non-Students in Division III. obtained 56,467 marks, or 59·56 per cent. of the maximum of 94,800, their pass-marks being 58 per cent.

In the Division IV. the 37 Professional Associate Candidates for the Fellowship gained 20,008 marks, being 54·07 per cent. of the maximum of 37,000, their pass-marks being 50 per cent. In Division V. the 3 Candidates for the direct Fellowship obtained together 2,729 marks, out of a possible 4,500, their pass-marks being 60 per cent.

Dividing the Candidates into the three Classes—"Land Agency," "Valuation," and "Building"—it is found that the 53 "Land Agency" Candidates obtained 33,756 marks out of a maximum of 58,600, or 57·60 per cent.; the 65 "Valuation" Candidates 41,391 marks out of 72,000, or 57·48 per cent.; and the 31 "Building" Candidates 21,654 marks, or 60·31 per cent. of their maximum of 35,900.

The "Institution" Prize of the value of £15 15s. was won by a Candidate in the Valuation Sub-Division of Division II., with a total of 817 marks out of a maximum of 1,000, and the "Special" Prize of £10 10s. was awarded to a Candidate in the same Sub-Division, who obtained 768 marks out of 1,000.

The "Driver" Prize for Candidates in Division III. was gained by an Examinee in the Building Sub-Division, with a total of 977 marks out of a possible 1,200, and a Consolation Prize in this Division presented by THE PRESIDENT was gained by a Candidate in the Land Agency Sub-Division, with 968 marks out of 1,200.

The "Crawler" Prize of £10 was competed for by the Candidates in Division IV., and was awarded, for the best work in the subject, "Principles and Practice of Valuation," to a Candidate in the Valuation Sub-Division, who obtained 82 per cent. of the possible marks awarded for this subject.

The Council have again to express their acknowledgment to the large number of Honorary Examiners who have this year devoted so much time and attention to labour of a most irksome and exacting kind. No fee which the Society could pay would represent the value of the services which some of the gentlemen render out of pure goodwill to the Institution. The following are the Examiners referred to in this connection:—Mr. MEADOWS WHITE, Q.C., Mr. T. W. WHEELER, Q.C., Mr. E. J. CASTLE, Q.C., Mr. W. WILLIS BUND, Mr. G. M. FREEMAN, Mr. H. A. RIGG, in the legal subjects; in other subjects Mr. G. J. BROWN, Mr. T. A. DICKSON, Mr. W. EVE, Mr. E. B. I'ANSON, Mr. T. JONES, Mr. C. J. MANN, Mr. G. MURRAY, Mr. E. PINCHES, Mr. A. L. RYDE, Mr. A. R. STENNING, Mr. PENFOLD, the Honorary Secretary, and Mr. J. C. ROGERS, the Secretary.

The Council as a whole are also of opinion that the Members should be made aware of the important part taken in the Examinations by their colleagues, Mr. C. OAKLEY, Mr. T. M. RICKMAN, Mr. J. SHAW, Mr. E. SMYTH, Mr. H. T. STEWARD, Mr. A. VERNON, and Mr. D. WATNEY.

The Branch Preliminary Examination at Manchester was again most successfully conducted with the assistance of local Moderators, Messrs. J. BERTWISTLE, H. S. BATEY, E. J. BRIDGFORD, S. HARGRAVES, and J. HOLDEN, whose valuable services claim an acknowledgment in this Report.

The hospitalities of Osterley Park were again extended to the Institution this year in connection with the out-door Surveying and Levelling and Timber Measuring Examinations, by the kind permission of The Right Hon. the Earl of JERSEY, with the hearty co-operation of his agent, Mr. W. D. LITTLE.

Before leaving the subject of the Examinations, it may be stated generally that, while it is undeniable that the system has now rooted itself deeply in every department of the profession, it is not without a measure of dissatisfaction that the Council observe the want of adequate preparation in practical subjects exhibited by a considerable number of the unsuccessful Candidates. This is indicated by the smaller percentage of passes this year, and it is hoped that future Candidates will draw the very plain inference that mere look-work without sufficient knowledge of principles and practice will not avail them in their efforts to obtain the distinction of Membership, and the narrow margin of marks by which the majority of the successful Candidates passed shewed that this remark is of general application.

PROVINCIAL COMMITTEES.

The Council desire to express their acknowledgments to the Provincial Committees of the Institution for their valuable services in aiding them in investigating the professional antecedents and general qualifications of Candidates for Examination, this being the first occasion on which Examination applications of all descriptions have been reported on by the Members of the Institution in the Counties from which they emanate.

The following is a list of the Provincial Committees, with their Chairmen, and the date of the commencement of their respective official years.

TABLE F. PROVINCIAL COMMITTEES.

Committee.	Chairman.	Number of Members.	Date of Expiration of Chairman's Year of Office.
A Northern Counties	T. Sample ..	49	21 April.
B Counties Palatine	T.T. Wainwright	102	2 June.
C Yorkshire	T. Fenwick ..	92	1 May.
D Salop and Hereford	H. J. Wyley ..	35	12 May.
E Derby and Stafford	C. H. Inge ..	36	18 May.
F Nottingham and Lincoln	J. Turner ..	49	10 May.
G Monmouth and South Wales ..	R. Forrest ...	32	4 May.
H Warwick and Worcester	G. S. Mathews	50	1 June.
I Leicester, Northampton, and Rutland	E. K. Fisher ..	46	31 May.
J Cambridge, Huntingdon, Norfolk, and Suffolk	J. C. Jonas ..	56	6 May.
K Berks, Bucks, and Oxon	D. Haslam ..	46	24 April.
L Beds, Essex, Herts, and Middlesex	G. B. Hilliard	50	23 May.
M Devon and Cornwall	C. E. Ware ..	38	17 April.
N Somerset, Glo'ster, and North Wilts	R. F. Sturge ..	53	16 April.
O Hants, Dorset, and South Wilts ..	G. E. Richards	92	5 May.
P Kent	G. Langridge .	60	24 May.
Q Sussex	J. Woodhams	30	25 August.
R North Wales and Radnor	J. E. Poundley	20	30 May.

JUNIOR MEETINGS.

During the Session a fourth series of Junior Meetings has been held, productive, it is hoped and believed, of results useful to the younger Members. When these Meetings were first sanctioned by the Council, it was decided, in order to give them a practical character, to fix the limit of age for those entitled to attend them at 32 years. This object having been apparently attained, and the number of Examinees and Students having so largely increased in recent years, it has been decided by the Council to reduce the age-limit to 30 for the next Session. This will have the effect of disqualifying some of the older Examinees, whose experience at the Junior Meetings should assist them in taking part in the discussions at the Ordinary General Meetings.

Two of the Papers read at these Meetings—to one of which a prize offered by Mr. OAKLEY was awarded—have been thought worthy of publication in the “Professional Notes.” A similar prize will be offered by THE PRESIDENT, Mr. SHOPPEE, in connection with the next series of Junior Meetings.

COUNCIL AND COMMITTEE MEETINGS.

During the year 46 Council and Committee Meetings have been held, the attendances at which were as follows:—

ATTENDANCES

From May 5th, 1892, to April 24th, 1893, both inclusive.

NAME.	Total Council Attendances.	Total Committee Attendances.	Total Council and Committee Attendances.
MEMBERS.			
Bidwell, C. - - - - -	6	—	6
Buck, A. - - - - -	8	—	8
Clarke, T. C. - - - - -	11	9	20
Clutton, J. - - - - -	1	—	1
Clutton, R. G. - - - - -	6	1	7
Cross, J. - - - - -	1	—	1
Drew, H. - - - - -	2	—	2
Driver, R. C. - - - - -	7	2	9
Dunlop, A. M. - - - - -	9	6	15
Galsworthy, F. T. - - - - -	8	6	14
Garrard, A. - - - - -	6	9	15
Horsfall, R. - - - - -	2	1	3
Mathews, W. - - - - -	4	—	4
Oakley, C. - - - - -	10	2	12
Rickman, T. M. - - - - -	9	11	20
Rolleston, J. F. L. - - - - -	3	—	3
Shaw, J. - - - - -	5	—	5
Shoppes, C. J. - - - - -	13	15	28
Steward, H. T. - - - - -	12	5	17
Sturge, W. - - - - -	1	—	1
Squarey, E. P. - - - - -	5	—	5
Vernon, A. - - - - -	10	1	11
Vigers, F. - - - - -	—	—	—
Vigers, R. - - - - -	5	5	10
Watney, D. - - - - -	13	11	24
PROFESSIONAL ASSOCIATES.			
Sabin, J. H. - - - - -	12	8	20
Smyth, E. - - - - -	12	2	14
ASSOCIATES.			
Barry, J. W. - - - - -	—	1	1
Webster, Sir R. E. - - - - -	1	—	1

COLONIAL MEMBERS.

The Council have, during the last ten years, received many applications from Surveyors holding Official appointments in the British Colonies and Dependencies, to be

elected Members of the Institution; but it is only recently that they have been in a position to entertain such applications for admission, without Examination, under the following By-Law, which became operative, by a special provision of the Charter, at the end of the year 1891 :—

“ No person shall be eligible for election as a
 “ Fellow, unless he shall have passed the Examination
 “ declared in the Rules of Examination to appertain to
 “ the Class of Fellows. *Nevertheless it shall be in the*
 “ *power of the Council by a vote, in person or by proxy,*
 “ *of not less than three-fourths of the whole Council, to*
 “ *dispense with the aforesaid Examination in favour of*
 “ any Candidate of exceptional standing as a Surveyor
 “ or of a Candidate holding an official appointment as a
 “ Surveyor in any of the British Colonies or Dependen-
 “ cies who shall have passed such other Examination as
 “ the Council may accept in lieu of the said Examination.”

Acting under the powers conferred by the Charter and the By-Law above quoted, and with a view to federating the profession throughout the Empire, and with a further view of affirming the professional status of Colonial Surveyors, the Council of the Institution have notified that they are prepared to entertain applications for admission to Membership, without Examination, from Surveyors holding official appointments in certain British Colonies and Dependencies, where it is understood that Candidates for such appointments are required, as a condition precedent, to pass an Examination which can be accepted in lieu of the Professional Examinations of the Institution.

The following are among the conditions under which applications for admission will be considered by the Council :—

A Colonial Surveyor will be considered eligible *cæteris paribus* if he shall have passed an Examination qualifying him as an authorised or Licensed Surveyor, or as an official, or Crown Surveyor, or Surveyor-General, in certain Colonies and Dependencies.

All Candidates will be required to furnish a detailed description of the Examination or Examinations passed by them in the Colonies, which description must be signed by the Candidate, and, in the case of a subordinate officer, countersigned by the Surveyor-General, or, in the case of a Surveyor-General, by the Colonial Secretary, or other chief official, and will also be required to furnish testimonials as to personal character, *independently of the professional testimonials referred to.*

The Diploma granted to a Colonial Member will bear upon the face of it a notification that it applies solely to the Colonies, and is in no sense a Diploma available for a Surveyor practising in the United Kingdom.

Each Candidate will be required to sign a formal declaration to this effect, and an undertaking that the Diploma shall be returned to the Council should the Candidate, from any cause, cease to practise in the Colonies.

Each Colonial Member will be required to deposit with the Secretary a standing order on a London Agent for the annual payment of his subscription, and through whom papers relating to the Institution may be periodically transmitted.

Candidates must be over 25 years of age:

Colonial Members when elected will be regarded as subject to such provisions of the general By-Laws as are applicable to their case, and will be required to sign a formal declaration to that effect, attached to the form of application.

The privileges of Colonial Members will be identical with those of other Members, and may be briefly summarised as follows:—

(a) The right as a Fellow of the Surveyors' Institution to use the designatory letters F.S.I.

(b) The right to receive copies of the "Transactions" of the Institution, published at frequent intervals during the Session, from November to May. Also copies of the "Professional Notes," published at intervals of two or three months throughout the year.

(c) The right to a Diploma of Membership, subject, as in other cases, to a notification of its annual renewal.

(d) The right, during temporary residence in England, to attend the Meetings of the Institution, to use the Library and rooms of the Institution, and to enjoy all the privileges of Members resident in the United Kingdom.

The Council have received great assistance from the Colonial Office in distributing the Memorandum from which the above extracts are taken, throughout the British Dependencies, with what results will appear later on.

LIBRARY.

During the year covered by this Report, the donations to the Library Fund have amounted to the sum of nearly £300. A good many new works have been purchased or presented, and as a special Library of reference it may now be said to take rank among some of the best in London. Considerable progress has been made with the compilation of the new Catalogue which the Council propose to issue gratuitously to all the Members early in the coming recess.

PUBLICATIONS.

Several Papers of exceptional interest have been read at the Ordinary General Meetings of the past Session, and the discussions have been maintained at their normal level of excellence. A slight departure was made from the usual type of Papers by the introduction of the somewhat academic subject of Bimetallism. The action of the Council in sanctioning its consideration was amply justified by the widespread interest evoked by the able Papers of Mr. TUCKETT and Mr. GODDARD, illustrating the rival theories of currency, and the value of the discussion was considerably enhanced by the instructive speeches of the Right Hon. HENRY CHAPLIN, M.P., the Right Hon. Sir JOHN LUBBOCK, M.P., Sir GUILFORD MOLESWORTH, Professor FOXWELL, and other eminent authorities. Most useful Papers have also been contributed to the volume by our Associates, Mr. J. D. WALKER, Q.C., on "Rights of Way," Mr. G. M. FREEMAN, on the "Arbitration Act, 1889," and Mr. R. F. GRANTHAM, on "Sewage Filtration," as well as by Mr. P. E. PILDITCH, on "Dilapidation Practice as Affected by some Recent

Decisions.” The Council also desire to acknowledge their indebtedness to a non-member, Mr. BRIGHT, for a most useful practical Paper on “Underwoods.”

Volume V. of “Professional Notes” was completed during the Session, and the first instalment of a new volume has also been issued. The Council are constantly receiving testimonies to the value of this publication, which, apart from its utility for purposes of reference, affords them an opportunity of collecting and disseminating valuable information not infrequently contained in Papers read before Provincial Committees, at Junior Meetings, and before other Societies.

GENERAL.

In common with the Institution of Civil Engineers and several other bodies, the Council lodged a Petition against the grant of a Royal Charter to the Sanitary Institute of Great Britain, but withdrew it on condition that the draft Charter should be amended by specifying:—

1. That Fellows of The Surveyors’ Institution holding its special Sanitary Science Certificate should be eligible as Examiners.

2. That every certificate granted by the Sanitary Institute should bear on the face of it a statement that it does not amount to a professional qualification for an **Engineer** or Surveyor, and is simply a certificate of sanitary knowledge.

The Lords of the Privy Council have, however, advised

Her Majesty against the grant of a Charter to the body in question.

It was stated in the last Report that action in the matter of improving and enlarging the Institution premises was in abeyance pending the carrying out of the proposed Westminster Improvement scheme. No further progress has been made in the matter, but meanwhile the Council felt that certain improvements in the sanitary arrangements of the Institution premises could be no longer delayed, and that a body so closely associated with questions of hygiene should be abreast of the most improved sanitary methods. In consequence of the necessity for extensive excavations and somewhat heavy structural alterations, the expenditure on these works has been considerable, but it is believed that the results are thoroughly satisfactory, and will meet with the approval of the Members.

The improvements referred to (which were carried out under THE PRESIDENT'S personal supervision) are confined to the basement of No. 12, and a further outlay will be necessary in connection with the sanitary arrangements on the upper floors of the same house. When these are completed the whole premises will have been placed in a thoroughly sanitary condition.

During the year a further and much-needed improvement has been effected by installing the electric light in the Library, Lecture Hall, and principal rooms of the Institution. This has involved an initial expenditure of about £166, against which, and the extra cost of the new illuminant, must be set the advantage as regards the improved ventilation of the Lecture Hall, the great saving as regards

damage to painting and decoration, and the preservation of the valuable contents of the Library from the destructive effects of the products of gas combustion.

The Council have now rendered a full account of their stewardship during the year, and it only remains to express an earnest hope that the Members will be satisfied from the recital that the affairs of the Institution have been wisely and faithfully administered.

				RECEIPTS.			REVENUE		
							£	s.	d.
1892.									
1311	Fellows' Subscriptions for 1892, at £3 3s.			-	-	-	4,129	13	0
20	" " in advance for 1893, at £3 3s.			-	-	-	63	0	0
18	" " arrears at £3 3s.			-	-	-	56	14	0
5	" " part paid			-	-	-	5	5	0
							4,254 12 0		
390	Professional Associates' and Associates' Subscriptions for 1892, at £2 2s.			-	-	-	819	0	0
5	Professional Associates' and Associates' Subscriptions in advance for 1893, at £2 2s.			-	-	-	10	10	0
27	Professional Associates' and Associates' Arrears at £2 2s.			-	-	-	56	14	0
2	" " Subscriptions for 1892 (part paid) at £2 2s.			-	-	-	2	2	0
							888 6 0		
144	Students' Subscriptions for 1892 at £1 1s.			-	-	-	151	4	0
1	" " arrears, at £1 1s.			-	-	-	1	1	0
							152 5 0		
							5,295 3		
Hire of Arbitration Rooms							326 11		
Dividends							567 3		
Transferred from Capital							750 0		
Transferred from Library							800 0		
Cash at Bankers and in hands of Secretary, January 1st, 1892							233 17		

£7,972 15

				CAPITAL		
48	New Fellows' Entrance Fees, at £5 5s.			-	-	-
24	Fellows' Entrance Fees, Balance on Transfer, at £2 2s.			-	-	-
69	New Professional Associates' and Associates' Entrance Fees, at £3 3s.			-	-	-
Interest on North British Railway Preference Stock (Crawter's Bequest)				-	-	-
Beadel Bequest				-	-	-
Transferred from Revenue				-	-	-
Balance at Bankers, January 1st, 1892				-	-	-
				£1,324 3		

				LIBRARY		
Donations to December 31st, 1892				-	-	-
Dividends				-	-	-
Balance at Bank, January 1st, 1892				-	-	-
				£1,365 19		

				SUM		
Revenue Account				-	-	-
Capital				-	-	-
Library				-	-	-
				£7,972 15		
				1,324 3		
				1,365 19		

£10,662 17

				ASSETS AND		
Cash at Bankers and in hands of Secretary				-	-	-
Value of Furniture and Books				-	-	-
Value of Investments—				-	-	-
£4,084 15 11	2½ per Cent. Consols, at 98			-	-	-
9,030 7 11	New 2½ per Cents., at 96½			-	-	-
254 0 0	North British Railway Preference Stock, at 124			-	-	-
1,545 0 0	Great Eastern Railway 4 per Cent. Debenture Stock, at 138			-	-	-
1,505 0 0	London and North Western Railway 4 per Cent. Debenture Stock, at 138½			-	-	-
4,685 10 4	India 8½ per Cents., at 108½			-	-	-
				22,183 19		
Subscriptions and Entrance Fees due, but unpaid at date				-	-	-
Fees for use of Rooms due, but unpaid at date				-	-	-
Value of Premises, Nos. 12 & 13A, Great George Street				-	-	-
				254 2		
				116 0		
				7,200 0		
				£35,140 15		

EXPENDITURE.

	EXPENDITURE.	£ s. d.	£ s. d.
Taxes, and Insurance -	- - - - -	875 7 6	
Light, and Water -	- - - - -	213 6 4	
		<u>88 3 3</u>	
rs -	- - - - -		671 17 1
ery, Postage, and Receipt Stamps, Books of Account, Publications, &c. -	- - - - -		316 12 0
ies of Secretary and Staff -	- - - - -	1,732 19 10	360 0 6
eeper's Wages and Allowances (including Commissionaire) -	- - - - -	<u>151 0 6</u>	
			1,884 0 4
ehold Effects, Housekeeper's Petty Cash Expenses, Tea, and Sundry Disbursements -	- - - - -		224 15 3
nations—Examiners' Fees -	£167 4 6		
Printing, Lithography, Hire of Instruments, and			
Sundry Disbursements -	267 16 2		
		<u>435 0 8</u>	
Less Candidates' Fees forfeited -	£107 2 0		
„ Sale of Examination Rules -	37 4 4		
„ Special Examination Fees -	<u>18 18 0</u>		
		163 4 4	
Prizes -	- - - - -	<u>36 11 6</u>	
			271 16 4
ocation of "Transactions"—Printing and Lithography -	- - - - -	487 14 4	308 7 10
Binding -	- - - - -	13 19 10	
Reporting -	- - - - -	<u>39 18 0</u>	
		541 12 2	
Less Sale of "Transactions" -	- - - - -	<u>27 5 2</u>	
			514 7 0
ocation of "Professional Notes"—Printing and Lithography -	- - - - -	360 13 5	
Less Sale of "Professional Notes" -	- - - - -	<u>22 2 6</u>	
			338 10 11
incial Committees—Printing and Sundry Disbursements -	- - - - -		34 14 6
ase of £2,345 15s. 4d. India 3½ per Cent. Stock -	- - - - -		2,502 19 8
eral Printing -	- - - - -		234 13 0
Charges and Advertisements -	- - - - -		83 1 0
ferred to Capital Account -	- - - - -		100 0 0
tric Lighting -	- - - - -		166 1 0
.at Bankers and in hands of Secretary -	- - - - -		<u>232 15 3</u>
			£7,972 15 4

	-	-	-	-	-	-	-	-	-	-	-	-	-	£92	15	0
Transferred to Revenue -	-	-	-	-	-	-	-	-	-	-	-	-	-	750	0	0
Sinkings and Drainage -	-	-	-	-	-	-	-	-	-	-	-	-	-	250	0	0
Total at Bankers, December 31st, 1892	-	-	-	-	-	-	-	-	-	-	-	-	-	291	8	1
														£1,324	8	1

Change of Books -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	£259	17	0
Transferred to Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	800	0	0
Balance at Bankers, December 31st, 1892	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	306	2	4
																		£1,865	19	4

[illegible][illegible]

Examined with the Books and Vouchers, and found correct.

H. C. NEWMARCH.
GEORGE CADELL.

£35,140 15 0

APPENDIX TO VOL. XXV.

Obituary.

WILLIAM JOHN BOWER (Fellow), who died at his residence at Derby, on the 6th December, at the early age of 39, commenced his professional career in the office of Mr. JOHN SHAW, of that town, and, after completing his pupilage, started as a land agent and surveyor on his own account. He had the management of numerous properties and of a large building estate in the neighbourhood of Derby.

ROBERT CASTLE (Fellow), of the firm of CASTLE, FIELD, & CASTLE, of Oxford, was elected a Member at the beginning of the year 1873. After having been many years in the office of the late Mr. FIELD, he entered into partnership with him in 1866, and subsequently carried on the business at Oxford in conjunction with Mr. FIELD's son. His death, which took place somewhat suddenly, occurred in September 1892, in the 58th year of his age. His health had for some time been failing, but no immediate danger was anticipated, and it was hoped that a trip which he took to Norway would have restored him, but this hope having been disappointed he afterwards went to Jersey, where, at St. Helier's, he was seized with a stroke of apoplexy which in a few hours proved fatal. He was widely known and

highly respected, not only in Oxford but in almost every part of England, and his opinion in connection with questions of property was in request by various departments of the public service. During the years 1890-92 he held the position of Chairman of the Berks, Bucks, and Oxon Provincial Committee of the Institution. He held, in conjunction with his firm, the management of much of the landed property of the University and Colleges of Oxford, and was Agent for the capitular bodies of Winchester and Salisbury. On the constitution of the Board of Agriculture he was appointed permanent Inspector, an office which he previously held under the Land Commissioners. He also acted extensively for the Charity Commission, and took a large part in the carrying out of the Extraordinary Tithe Redemption Act of 1886.

He went some few years ago, on the recommendation of Sir JAMES CAIRD, to Greece, for the purpose of carrying out an extensive drainage scheme, but shortly afterwards resigned the Chairmanship of the Company promoted to execute the work. He gave valuable evidence before several Parliamentary Commissions, notably those on Town Holdings, the Thames Valley Drainage, and Leasehold Enfranchisement, the minutes of the last being especially enriched by his wide and deep knowledge of matters touching the description of property with which the Commission dealt.

He was a man of most genial disposition, and by his death the profession has lost one of its most popular and able members.

ROBERT LAKE COBB (Fellow), of Lincoln's Inn Fields and Higham, Kent, was born on the 9th of June, 1817, and carried on for many years an extensive business as a Land Agent and Surveyor.

In the course of a long life Mr. COBB necessarily obtained

a very wide experience in all matters connected with the sale, purchase, and valuation of land, but his career, though a busy one, was comparatively uneventful. He was frequently engaged in compensation cases either as witness or arbitrator, and a large quantity of the most valuable property in Kent passed at one time or another through his hands. Mr. COBB became a Member of the Institution on its formation in 1868, being, in fact, among the first 30 members elected, and served on the Council from 1883 until his voluntary retirement from it in 1889. He was an Alderman of the Kent County Council, a Director and Trustee of the Kent Fire Insurance Company, and a Director of the Maidstone Water Company. In addition to many physical gifts and graces Mr. COBB was endowed with a singularly genial, frank, and kindly character, and few men enjoyed a wider popularity. To the end of his life he preserved a freshness, almost a youthfulness, of manner which made it difficult to believe that he was between 70 and 80 years of age. Mr. COBB died on the 4th of February last, and was buried in Lower Higham Churchyard, being followed to the grave by a large body of friends and acquaintances.

NEWELL CONNOP, of Bradfield Hall, Reading (Fellow), was educated at the Royal Agricultural College, Cirencester, after leaving which he passed six years on the Duke of BUCCLEUCH's Northamptonshire Estates, two years as pupil and subsequently as sub-agent. In 1882 he commenced practice on his own account as a Land Agent, Surveyor, and Valuer, managing properties for Messrs. HERRIES, of Frimley, Surrey, and for the Trustees of Mrs. TURBERVILLE, and others. Mr. CONNOP, who was elected a Fellow of the Institution in October 1889, died at Bradfield Hall, Reading, on the 14th of February last, in the 33rd year of his age.

JOHN CONSTABLE, M.A., THE REV. (Honorary Member), Rector of Marston Bigot, Frome, was, from 1859 to 1880, Principal of the Royal Agricultural College, Cirencester. The son of a well-known Edinburgh publisher, one of the first to introduce cheap handbooks on science and the arts, he was himself a *savant* of no mean order. He was educated at Trinity College, Cambridge, taking his B.A. degree in 1848, and his M.A. degree in 1854. He took great interest in all educational and public matters in his county, and especially in the neighbourhood of Frome, where he will be greatly missed. He was elected an Honorary Member of the Institution on January 15th, 1877.

CHARLES LEWIS ATTERBURY FARMAR (Fellow) was elected to the Membership of the Institution in March 1891, at which time he was resident Agent to the Earl of ORFORD, at Wolterton Park, Aylsham, Norfolk, having previously held other important positions of the same kind. He died at Watford in July 1892.

JOHN WILLIAM GROVER (Associate), born in 1836, was the only son of the late Rev. HENRY MONTAGUE GROVER, of Boveney Court, Burnham, Bucks. After being educated at Marlborough College and in Germany, he was articled to the late Sir CHARLES FOX, then a member of the firm of FOX, HENDERSON, & Co., and during his pupilage was engaged in the works at Birmingham, in the construction of Rochester Bridge, and of the Wiesbaden and Eltville Railway, and in superintending the fixing of the tank on the top of the Northern Tower of the Crystal Palace. After the termination of his pupilage, Mr. GROVER was appointed draughtsman in the office of works of the Science and Art Department, and soon became head of the Engineering and Constructive Department. Among other works in which he

was engaged at that time may be mentioned the preparation of Reports on the Paris Exhibition, and the superintendence of the original design and working drawings for the International Exhibition of 1862. In January 1862, Mr. GROVER commenced practice on his own account as a Civil Engineer, in Westminster. Among the works in which he was engaged may be mentioned the construction of 27 miles of the Manchester and Milford Railway. He also assisted the late Major-General Scott in designing and superintending the erection of the new Lecture Theatre at the South Kensington Museum, and subsequently of the Royal Albert Hall. He was also extensively engaged in the surveys for various railways in England and on the Continent, and prepared designs for the works of the Mexican Railway. He acted for various railway companies in Wales, carried out the Westerham Valley Branch of the South Eastern Railway, and designed the Kingsland iron bridge over the Severn. He also laid out a mountain line in Venezuela, and made various hydrographical surveys of the coast of that country. Latterly Mr. GROVER devoted himself principally to the question of water supply, more particularly for the districts surrounding London, and so lately as February of last year, read a Paper before The Surveyors' Institution, entitled "An Explanation of the London Water Question," which elicited an interesting discussion, in which many of the leading authorities took part. Mr. GROVER was elected an Associate of the Institution in March 1891. He died on the 23rd of August last, after a long and painful illness, in the 56th year of his age.

WILLIAM GROVES (Associate) was elected to the Membership of the Institution on December 19th, 1881. In 1875 he became a partner in the firm of BEALE, MARIGOLD, BEALE, & GROVES, of 28, Great George Street,

Westminster, but retired from partnership in 1890. He died on the 6th October, 1892.

WILLIAM HOUSMAN HIGGIN, Q.C. (Associate), one of the oldest and most respected members of the Bar on the Northern Circuit, died at Southport on January 30th, 1893, having for some years previous to his death been subject to acute attacks of gout. He was a native of Preston, and was a member of an old Lancashire family. He was called to the Bar in 1848, and quickly obtained a large practice in Manchester and Preston, and at the Assizes. He was Chairman of Quarter Sessions of the Hundred of Preston and Salford, and was, in 1890, appointed Recorder of Preston. Mr. HIGGIN was concerned, either as counsel or arbitrator, in nearly all the large compensation cases arising in the district with which he was connected, great dependence being deservedly placed on his sagacity, practical business faculties, and shrewd knowledge of men. He was elected an Associate of the Institution in December 1875.

WILLIAM HAVARD HUNTER (Fellow), of 8, Queen Anne's Gate, and Briton Ferry, South Wales, died suddenly at the latter place, on the 30th of November, 1892. He acquired a long practical experience of surveying as assistant to his father, as Sub-Agent to the Earl of JERSEY, and as assistant for six years in the office of Messrs. HALL & SONS. He commenced practice on his own account in 1880, and held the Agency for Lord JERSEY's Briton Ferry Estates, and in 1882, was appointed Valuer to the Rhondda and Swansea Railway Company.

CHARLES HAYWOOD JOHNSON (Fellow) died at his residence at Wath, near Sheffield, after a long illness, at the age of 51. He went to Sheffield in 1864, and became

assistant to, and afterwards partner with, the late Borough Surveyor, Mr. T. S. HOLMES. In 1882, he commenced practice on his own account, and was, in 1891, elected a Fellow of the Institution, being among the last of those who joined under the old rules of admission. He was employed in purchases of land and other property for the Manchester, Sheffield, and Lincolnshire Railway, and also acted on behalf of several private landowners.

CHARLES H. J. LAWTON (Fellow) was the third son of the late GEORGE LAWTON, one of the proctors of the Ecclesiastical Courts of York, and nephew of Mr. WILLIAM LAWTON, proctor of the same courts. He was articled to Mr. FRANCIS CARR, of York, one of the oldest and most prominent of Yorkshire Land Agents. During his pupillage he gained experience over a wide range of professional work. At the early age of twenty-three Mr. LAWTON commenced business on his own account as a Land Agent and Surveyor. His practice comprised the Agencies for several large Estates, some of the largest Yorkshire Estate Surveys, Agricultural Drainage, Town Extension and Building Estate Development, and house and landed property valuation. In 1882 he took into partnership Mr. R. H. SIMPSON. It may be mentioned that Mr. LAWTON was an amateur oarsman of considerable renown, and the possessor of a large number of trophies of his skill in this direction.

Mr. LAWTON died of jaundice on the 31st July, 1892, at the comparatively early age of 48.

ALFRED LOVEJOY (Fellow) was articled to the late Mr. S. S. TEULON, and afterwards engaged in practice on his own account for a short time. In 1865 he entered into partnership with Mr. E. DRU DRURY, of 35, Bucklersbury.

He was Surveyor to several estates in or near London and

in the country; among others, that of Sir GILBERT EARL, Bart., at Kensington, a large portion of which he laid out for building; and that of Mr. L'ESTRANGE, at Hunstanton, in Norfolk.

Mr. LOVEJOY, who died in February last, was a Fellow of The Surveyors' Institution for many years, and was an Associate of the Royal Institute of British Architects.

GEORGE McCALL (Fellow), of Blackburn, Lancashire, acquired a practical knowledge of the details of his profession in the office of Mr. JOB BINTLEY, Surveyor, of Kendal, Westmoreland, and was afterwards for eight years Managing Clerk to Mr. JOHN WITHERS, C.E., of Blackburn. He commenced to practise on his own account in 1863, and was elected a Member in 1876 of the Institution.

FREDERIC MOORE (Fellow) acquired a practical knowledge of surveying, valuing, and the management of house property in the office of his uncle, Mr. T. MOORE, with whom he was admitted into partnership in 1885, and after whose death, in 1886, he continued to carry on the business in conjunction with Mr. A. MOORE, his cousin. For a long time he had been an invalid, and in 1889 almost completely gave up business. He died at his residence at Worthing, on the 11th of October, 1892, at the early age of 35.

FREDERICK AUGUSTUS MULLETT (Fellow), of the firm of F. A. MULLETT, BOOKER, & Co., of Hyde Park Square, was elected a Member of the Institution in March 1882. After an active business career of about 40 years, a short illness terminated in his death at St. Leonard's-on-Sea on the 8th March last.

EDWARD RYDE (Past-President) was born at Woking on the 4th September, 1822. It appears from "Manning and Bray's History of Surrey" that the RYDE family were settled in the county as far back as the reign of EDWARD III., and possibly earlier. The parish registers of Ewhurst record the death of an EDWARD RYDE in 1663, and of SARAH his wife in 1658.

After completing his education at Windsor, Mr. RYDE spent some time in studying practical agriculture on his father's land at Woking. The knowledge thus gained, aided by subsequent observation and a keen liking for farming pursuits, was of the greatest value to him in after-life. Indeed, it may be said of him that he never wholly lost the impress of his country origin and training, and the fact occasionally formed the subject of good-humoured banter when he appeared in the witness box.

On the 20th June, 1837 (the day of the Queen's accession, as he was fond of pointing out), he commenced his professional career as a pupil in the office of the late Mr. JAMES MARTIN SANDERSON, of Sunbury. It must have been a good school of business preparation, for, though natural disposition counts for something, he must have owed a good deal of the remarkable industry, love of order, and exactness which distinguished him in later life, to habits inculcated by his master in those early days. Possessed of great natural intelligence, endowed with a splendid constitution and an appetite for hard work, he rapidly acquired a mastery of his business. The times were favourable for the purpose. Mr. SANDERSON, in common with most surveyors in those days, found abundant occupation in connection with the Tithe Commutation and Poor Law Assessment Acts which had just been passed, followed a little later by the sudden and enormous expansion of the railway system. It was a time in which capable men found their opportunity,

and to this epoch, more, perhaps, than to any other, the profession, as now constituted, owes its evolution as a distinct and definite vocation.

Eight years later (in 1845) Mr. RYDE was taken into partnership by Mr. SANDERSON, under the style of SANDERSON and RYDE, of Sunbury and 35, King Street, Westminster. The partnership was dissolved in 1846, when Mr. RYDE, with an instinct of the career before him, resolved to settle in London.

He became at once immersed in work of the most varied description, but was principally engaged at first in laying out and surveying new lines of railway—a sufficiently remunerative class of occupation in those times. Among the new projects of this kind in which he was concerned may be mentioned the surveying of the new direct Portsmouth line from Godalming to Havant, and the Alton and Winchester line, both of which were subsequently taken over by the London and South Western Company. He was also engaged about the same time on behalf of the broad-gauge railways in the historic battle which for several years divided the engineering world into hostile camps. In 1850-51 he was engaged on a trigonometrical survey of the Island of Guernsey—a piece of work in which he took peculiar pride, and which he was fond of referring to as an example of scientific triangulation when descanting on the shortcomings of the chain surveyors of these degenerate days.

On the 1st January, 1855, Mr. RYDE became a candidate for, and was appointed to, the post of Surveyor to the South Eastern Railway Company, and continued to act as its consulting surveyor until his death, although he resigned the detail work in the year 1866. It is generally understood that Mr. RYDE, in conjunction with Mr. SMILES, then Secretary of the Company, planned the extensions from London Bridge

across the water to Cannon Street and Charing Cross, which were carried out a few years later. In this capacity it fell to his lot to purchase an enormous quantity of property in some of the most densely-populated parts of London, and he gained in this way a very great and varied London experience in the compensation branch of his profession, to which he subsequently added a large country experience acquired in the purchase of the South Eastern Company's extensions from Lewisham to Tunbridge and Lewisham to Dartford. Besides the lines already referred to, he recently bought for the South Western Railway Company the Ascot and Aldershot, the Netley and Fareham, and the Leatherhead and Guildford lines.

His successful conduct of so much heavy and responsible work marked him out as a leading man among London surveyors, and drew into his hands no inconsiderable share of the abounding compensation business, of which there seemed to be no end in those halcyon days.

In the year 1866 he opened an office at 17, Parliament Street, where he carried on a very large business as a Land Surveyor, as he habitually called himself. In addition to his compensation business he became largely concerned in assessments under the various Rating Acts, and especially under the Valuation (Metropolis) Act of 1869.

It will be generally admitted that he was to a considerable extent the deviser of the modern system of rating public companies, especially as regards the details of railway rating. It offered a peculiarly favourable field for the exercise of his special gift of marshalling figures, and presenting a complex problem in a concise and lucid form. It was not long before his services were in request by the great railway, gas, water, tramway, and dock and harbour companies. Opinions differ as to the most effective qualities for an expert witness. Without going into the controversy, it may be claimed for

Mr. RYDE that he was eminently gifted with some of the first essentials for this class of work. He was as clear in explaining as in preparing his figures. He had a quick perception of the drift of cross-examination, and could not be interrupted in his purpose of stating his views in his own way.

Mr. RYDE was concerned in the principal arbitrations connected with the purchase of the telegraphs by the Government and of the London bridges by the Metropolitan Board of Works. He was also frequently consulted by several of the great municipalities in the manufacturing districts with reference to the management of their corporate properties, and with regard to their systems of leases and renewal fines.

He was the author of the well-known scale of surveyors' fees—a scale which has secured about as great a degree of general acceptance (in London at any rate) as any scale is likely to receive.

Mr. RYDE had a great sense of public duty, and he found time, despite the claims of a large practice, to engage in a good many useful activities connected with his native parish. After one unsuccessful attempt, he was elected a Member of the County Council of Surrey, and during the comparatively short term he was connected with it, he worked zealously to accomplish an object on which he had set his heart—the provision of a Local Board for Woking.

In 1886 he was appointed by the Land Commissioners for England and Wales an Assistant-Commissioner under the Extraordinary Tithe Redemption Act of 1886—a position of small emolument, but one that amounted to a well-deserved recognition of his professional eminence.

Until 1883 Mr. RYDE enjoyed the most perfect physical health. In that year a severe accident befell him in alighting from a train at Waterloo Station. The long spell of inactivity, and the permanent lameness that

resulted, told seriously on his health, and developed constitutional mischiefs that became apparent later on. Notwithstanding this, he attended to his business, though less continuously than usual, up to three months before his death. He died painlessly on Thursday, the 1st September, 1892, in the 69th year of his age.

The book so widely known as "Ryde's General Text Book" was published in 1853. It was the result of several years of arduous and unaided labour, if we except the section contributed to the work by Professor DONALDSON. The author admitted in his preface that the book was in many respects a compilation; but, even regarded from this point of view, it is a remarkable product of careful selection and judicious editing. Those portions of it that were original (and they represent a considerable part of the whole) show a remarkable grasp of all the features of the surveyor's many-sided profession. In fact, the fault of the book is its bulk, the result of the author's endeavour to compress into 1,100 pages a mass of matter that would be better distributed among half-a-dozen volumes. Literary fashion has changed greatly in 40 years; the present tendency is towards the specialization of knowledge into a multitude of separate branches. Earlier in the century it was considered desirable to collect all that was known on a subject into one single work, and it may be claimed for "Ryde's Text Book" that it is a singularly successful example of the encyclopædic literary form now all but obsolete.

It is probable that Mr. RYDE himself shared this view, as he consulted the writer of this memoir, some years ago, with reference to a new and abridged edition of his book, now practically unprocurable.

It is said that, when Mr. RYDE was a candidate for the Surveyorship of the South Eastern Railway, this book

formed the principal testimonial on which he relied, and that it was mainly instrumental in procuring him the appointment.

Mr. RYDE's contributions to the "Transactions" were many and varied, extending over the 21 years from January 1869 to November 1889. His first Paper was one of a series dealing with Parochial Assessments—a subject over which, it would be universally admitted, he possessed a remarkable mastery. The scope of this Paper was limited to historical notes on rating legislation, and it furnishes a comprehensive view of the development of this branch of the Statute Law from the year 1285 to the year 1868. It was followed, in 1870, by another Paper descriptive of the various kinds of property in respect of which poor rates are levied, and the manner of valuing that property for purposes of assessment. In November of the same year he read a third Paper dealing with the Rating of Railways, with special reference to the Valuation (Metropolis) Act, 1869, which had just been placed upon the Statute Book. In January 1871 he read a Paper on the results of the Land Purchases of the Tunbridge and Dartford Railways, in which he acted for the South Eastern Railway Company, and in 1875 a Paper on the Rating of Country Mansions, in which, notwithstanding his well-known political proclivities, he manfully stated his views with reference to what he regarded as the shortcomings of the present system of rating such properties, and the changes in this respect that might be expected under the operation of the Rating Act passed the previous year.

This Paper was followed three years after (February 1878) by a contribution, entitled "Notes on the Rating of the Worcester Water Works," in which he discussed with great acumen a recent decision in the Court of Appeal which he held to be subversive of established principles of rating.

His three Opening Addresses at the commencement of the Sessions 1880-81, 1881-82, and 1882-83, were models of this somewhat difficult class of literary effort. In December 1882 he produced a Paper descriptive of the Ordnance Survey of the United Kingdom, which concluded with valuable suggestions for improving, and increasing the utility of, the 25-inch maps.

Anyone who knew Mr. RYDE will remember how greatly his mind was exercised by the class of legislation—now so familiar—for regulating the relations of landlord and tenant. He embodied his views of it in a short Paper, entitled “Freedom of Contract between Landlord and Tenant,” read before the Institution in March 1883.

In December 1886 he made what, perhaps, may be regarded as his most weighty contribution to the “Transactions,” in the form of a Paper on “The Tithe Question: with Suggestions for the Redemption of the Rent-Charge.” These redemption proposals were the subject of a long debate, and attracted a good deal of public notice. They were based on the cumulative power of money, the rent-charge to be redeemed being calculated at £3,000,000, after deducting 5 per cent. for the cost of collection, £400,000, the difference between the par value of the rent-charge and the value in 1886, and £400,000 for rates and taxes. The scheme assumed that Parliamentary security could be given for the payment of 3 per cent. interest on the amount of the purchase-money, the landowner paying a new rent-charge of 4 per cent., the 1 per cent. profit being applied as an annual sinking fund until, in about 47 years, it accumulated to the total amount of the principal sum.

The scheme, which was explained by Mr. JASPER MORE, M.P., at the Church Congress, at Wolverhampton, met with considerable support among clerical tithe-owners, but objection was taken to it by a leading financial journal

on the ground that it proposed to pledge the national credit to the extent of 75 millions for the sole benefit of the landowner. A bribe of £600,000 a year for 47 years was, it was contended, offered as the price of his acceptance of a free gift of 75 millions at the end of that term, while the clerical tithe-owners would lose some £270,000 and the lay impropiators £480,000 a year under the proposed scheme. Again, the loss of the rates paid by tithe-owners must, it was argued, be made good by the ratepayers, and under the scheme a perpetual endowment of the Church, beyond the control of Parliament, would be effected.

These objections were met by Mr. RYDE in his second Paper on the subject, read in November 1889, by the argument that his proposals were, as has been said, based simply on the cumulative power of money, at compound interest, when spread over a number of years. The landowner was, he said, to pay the same sum as a fixed charge as he now paid in the form of a fluctuating rent-charge, with the difference that in 47 years his payment would cease altogether. As regards rates, he contended there would be no loss, for land was always valued as if tithe free, and then, if tithe were payable, its amount was deducted. As, however, the rate of interest on Consols had, since the reading of his first Paper, been reduced from 3 per cent. to $2\frac{3}{4}$ per cent., with a provision for a further reduction to $2\frac{1}{2}$ per cent., Mr. RYDE, in 1889, put forward a modified scheme by which the landowner, after payment of 45 per cent. of the commuted rent-charge for 100 years, was enabled to extinguish the charge altogether.

A Paper on the Rating of Machinery Bill, read in 1888, brought the long series to a close.

It would be hard to conceive a more practically constituted mind than Mr. RYDE possessed. In fact, he was apt

to be somewhat disdainful of things that happened to be incapable of accurate demonstration, with the result, of course, that subjects outside the domain of exact knowledge were treated by him with somewhat scant respect.

The extreme sense of order that regulated all his habits equally governed the workings of his mind. The facts of a difficult business problem seemed in his hands to fall of their own accord into proper sequence and relation without visible effort on his part, but he was careful to the last degree in revising, condensing, and (so to speak) clarifying anything which he committed to paper, until its purport was plain to the meanest understanding. Thus it came about that, without any sort of literary pretension, his style was as free from obscurity or surplusage as any style could be.

His robust mind was satisfied with nothing short of certitude, and thus it sometimes happened that, having come to a conclusion, he would be tempted to elevate a mere opinion into an axiom to which things must conform themselves, or stand suspected.

Mere fine-spun theories passed at once through the meshes of his practical mind, dismissed with some *reductio ad absurdum*, or some homely illustration conceived with remarkable force and clearness.

Except in the last two or three years of his life he was perhaps the most frequent speaker at the evening Meetings. Not that he ever rose without adding something of value to the general stock of knowledge. He knew what he had to say, and said it; perhaps with peculiarities of style and manner a little below his literary level, but always with plain good sense and moderation, and with a sort of *bon-homie* which put him at once on good terms with his audience.

He was very impatient of the new gospel of arbitrary interference with private rights of property. It was incon-

ceivable to him that the true basis on which such rights rest had been hidden from the wise and prudent of his generation, to be revealed in these latter days to babes and sucklings in Spring Gardens, and he strove by his pen, and, orally, as a witness in the committee rooms, to set forth the superior merits (perhaps morals) of the older creed.

He was at his best in giving evidence before a Parliamentary Committee on subjects like Leasehold Enfranchisement or the Incidence of Rating. Nothing could drive him from the fortress of hard facts in which he entrenched himself. No sophistries could lure him into abstract speculation. If necessary, he returned a score of times to his practical axioms and homely illustrations, admitting nothing that lay beyond the region of settled fact and experience.

This was at once the strength and the weakness of his method; the strength, because he was hard to confute on grounds of his own choosing; the weakness, because it enabled his opponents to discredit his evidence by representing him as impervious to new ideas.

One characteristic illustration is perhaps permissible. In giving evidence before the Select Committee on Town Holdings, he was pressed with a question as to the incidence of rates in the case of long leases. He persisted in replying that it was all a question of contract and that there was no dissatisfaction on the subject. "If that is the case," asked a Member of the Committee, "have you any idea why we are sitting here to-day?" This drew from the witness the prompt reply, "That is the one question which I am not able to answer."

His views on a variety of difficult and complex subjects will live for many a day in the blue books in which they are recorded, and may serve, in time to come, as a means of measuring the extent to which society may have got away from the principles which, at any rate, coincided with,

if they did not account for, an extraordinary degree of national prosperity.

He was possessed of a rare sturdiness and independence of character, and also had, it must be confessed, some of the defects of those qualities, shown by an occasional *brusquerie* of manner of which he was quite unconscious, but which led people at times to do less than justice to the many fine points of character he undoubtedly possessed. But at the worst he was the occasional subject of what LAMB calls "imperfect sympathies."

Those only who knew him well had the measure of his true worth—his kindliness of heart, his absolute candour, his extreme placability and loyalty to his friends. It is easy enough to forfeit the good graces of most men. It was positively difficult to forfeit Mr. RYDE'S. Once ensconced in his good opinion, the person so privileged was sure of a lenient judgment on any fault or omission he might be guilty of, and, if thought worthy of trust, was treated with entire confidence and freedom from reserve.

He has no doubt had his equals in particular fields of knowledge, but few who surpassed him in an all-round knowledge of his many-sided profession.

It would be impossible to exaggerate the value of Mr. RYDE'S services to the Institution. The time has not yet come for apportioning the credit of founding it among the persons concerned in its formation, but in this connection his loyalty and self-sacrificing zeal was more than ordinarily conspicuous. He was always ready to subordinate his own convenience and his own interests to its welfare, and he was jealous to the last degree of anything which would in his opinion tend to lower its tone or impair its usefulness. This made him at times a little suspicious of new departures. It is doubtful whether he ever approved entirely of the system of Professional Examinations, but when once estab-

lished he did his best to promote it, and rendered valuable service for several years as an Examiner in one of the most important subjects. This illustrates his character. He would resist sturdily a change of which he disapproved, but would cordially support it when his resistance proved unavailing, and do his best to put upon it the stamp of his own practical mind.

The Institution has lost by death many of its staunchest friends in recent years, but none whom it could less afford to spare than Mr. RYDE.

HAROLD EDWIN SWINSCOW (Professional Associate), who received his professional education in the office of Mr. W. J. BEADEL, was elected a Member of the Institution in February 1882. He died at Streatham, on March 6th, 1892.

CHARLES RAWLINSON WAINWRIGHT (Fellow), of Shepton Mallet, Somerset, died at the age of 70, in April last, from an attack of angina pectoris. He succeeded his father in his business as Land Agent and Surveyor at Shepton Mallet, after having served articles with Mr. G. P. MANNERS, City Architect of Bath. He had the management of considerable estates in Somersetshire, and in many neighbouring counties. On the passing of the Ecclesiastical Dilapidations Act of 1871, he was appointed one of the Diocesan Surveyors for Bath and Wells, an appointment which was fully justified by the absence of appeals against his decisions. He was Lord of the Manor of Christon. He was elected a Fellow of the Institution on December 19th, 1881.

DAVID WALKER (Fellow) was born in 1840, and served his articles with the firm of J. W. and W. HAY, Surveyors,

of Liverpool. From 1860 to 1867 he was in partnership with the late Mr. J. W. POUNDLEY, C.E., County Surveyor of Montgomeryshire. He was for many years retained as Valuer for the Corporations of Liverpool and Birkenhead, and other public bodies, made valuations for many of the leading Railway Companies, and was also Agent for several large building estates. For many years previous to his death, which occurred in November 1892, he was Colonel in command of the 1st Cheshire Engineer Volunteers.

Mr REGINALD WARD (Associate), for many years Solicitor to the Metropolitan Board of Works and the London County Council, died at Tunbridge Wells on 2nd July, 1892. He was born in 1829, and was admitted a Solicitor in 1852, and then went to Maidenhead, into the office of Mr. ROBERT ARTHUR WARD, a Solicitor in extensive practice in that town. On leaving him he entered the office of Messrs. BUDD & HAYES, in Bedford Row, where he remained some years, and then entered the office of Messrs. FRESHFIELD. While there he was offered a partnership in the well-known firm of BIRCHAM, DALRYMPLE, DRAKE, & Co., with whom he practised for about two years, when the partnership was dissolved. In 1867 he was appointed Assistant Solicitor in the office of the Metropolitan Board of Works, and on the death of the then Solicitor, Mr. WYKE SMITH, succeeded him in 1878. He remained Solicitor until the Metropolitan Board of Works ceased to exist in March 1889, when he became the Solicitor to the London County Council. This office he resigned in November 1890, retiring on a pension. He was elected an Associate of the Institution in November 1890.

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Hankinson, F. H.	2	2	0				

	£	s.	d.		£	s.	d.
Reeve, K.	2	2	0	Turner, T. N.	2	2	0
Robinson, G. E.	2	2	0	Tyser, R.	2	2	0
Rooke, A. B.	2	2	0				
Ryan, W. P.	2	2	0	Vallance, R. F.	2	2	0
Sanctuary, C. F. S.	2	2	0	Wadmore, B.	2	2	0
Saunders, M. L.	2	2	0	Wallace, G.	2	2	0
Savill, E.	2	2	0	Warner, A. E.	2	2	0
Slade, J. B.	2	2	0	Watts, W. J.	2	2	0
Smith, F. A.	2	2	0	White, C. A.	2	2	0
Smith, G. A.	2	2	0	Wilkins, W.	2	2	0
Stallard, W.	2	2	0	Winterton, H. J. C.	2	2	0
Suthers, J.	2	2	0	Winterton, W. M.	2	2	0
Swain, F.	2	2	0	Woods, A. G.	2	2	0
				Wood, E. B.	2	2	0
Tasker, H. H.	2	2	0	Woodward, W. H.	2	2	0
Taylor, S.	2	2	0	Wooler, W. H.	2	2	0
Thomas, J. H.	2	2	0	Wrennall, W.	2	2	0
Thompson, F. W.	2	2	0	Wright, G. T. G.	2	2	0
Thompson, G. W.	2	2	0				
Trafford, F.	2	2	0	Young, O. W.	2	2	0
				Young, T.	2	2	0

THE SURVEYORS' INSTITUTION

(INCORPORATED BY ROYAL CHARTER),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

LIST OF MEMBERS, JULY 1st, 1893.

*Date of Election
and of Transfer.*

Honorary Members.

1893, Mar. 20	CARRINGTON, THE RIGHT HON. LORD, G.C.M.G.	4, Whitehall Court, S.W.
1889, Dec. 9	CHAPLIN, THE RIGHT HON. HENRY, M.P.	Blankney Hall, near Lincoln.
1887, Jan. 24	COBHAM, THE RIGHT HON. LORD VISCOUNT	Hagley Hall, Stourbridge.
1886, Jan. 11	CULLEY, GEORGE, C.B.	Office of Woods, Forests, and Land Revenues, 1, Whitehall Place, S.W.
1883, May 21	DEVONSHIRE, HIS GRACE THE DUKE OF	Devonshire House, Piccadilly, W.
1871, Jan. 30	GORE, CHARLES ALEXANDER, THE HONORABLE	West Side, Wimbledon Common, S.W.
A. '81, Mar. 21 H.M. '86, Mar. 8	GRANTHAM, SIR WILLIAM	82, St. George's Square, S.W.
1889, Mar. 4	JERSEY, THE RIGHT HON. THE EARL OF	3, Great Stanhope Street, W.
1886, Jan. 11	KINGSCOTE, COLONEL SIR ROBERT NIGEL FITZ HARDINGE, K.C.B.	Office of Woods, Forests, and Land Revenues, 1, Whitehall Place, S.W.
A. '69, Jul. 26 H.M. '71, Feb. 27	LEACH, LIEUT.-COL. SIR GEORGE ARCHIBALD, K.C.B.	6, Wetherby Gardens, South Kensington, S.W.
1885, Apr. 20	M'CLELLAN, JOHN B., M.A., THE REV.	Royal Agricultural College, Cirencester.
A. '79, April 28 H.M. '92, Dec. 5	SMITH, HIS HONOUR JUDGE LUMLEY, Q.C.	57, Onslow Gardens, S.W.
F. '68, June 15 H.M. '93, May 8	VIGERS, FRANCIS	4, Frederick's Place, E.C.
1893, Jan. 9	WANTAGE, THE RIGHT HON. LORD, V.C., K.C.B.	Overstone Park, Northampton.

Total number of Honorary Members, 14.

Fellows.

Diploma
Number.Date of Election
and of Transfer.

The names of those Fellows who have qualified for the Class by Examination are distinguished thus *

1559	1889, Jan. 28	ABBEY, JOE BURMAN, A.M.I.C.E.	28, John William Street, Huddersfield
2149	1891, Nov. 4	ABBOTT, J. OCTAVIUS, A.R.I.B.A.	31, Charing Cross, S.W.
1084	1884, Jan. 14	ABBOTT, ROBERT THOMAS G.	Whitley House, Malton, Yorkshire.
1499	1888, Nov. 26	ABBOTT, WILLIAM	Holbeach, Lincoln.
1	1868, Jun. 15	ADAMS, CHARLES FREDERICK .	Barkway, Herts, and 57, Coleman Street, E.C.
1105	1884, Feb. 25	ADAMS, HENRY, M.I.C.E. . .	60, Queen Victoria Street, E.C.
1504	1888, Dec. 10	ADDIE, PETER	30, Winckley Square, Preston.
612	1881, Feb. 21	ADDIE, WILLIAM FORRESTER .	{ Powis Castle Estate Office, Welchpool, Mont- gomeryshire.
1439 {	{ A. '88, Jan. 9 } F. '91, Jan. 5 }	*†ADKIN, BENAIAH WHITLEY . .	14, Queen Street, Cheapside, E.C.
664 {	{ A. '81, Dec. 19 } F. '86, Dec. 8 }	ADKIN, CHARLES DUNCAN . . .	Wantage, and Abingdon, Berks.
1479	1888, Apr. 30	ALIEN, GEORGE	Estate Offices, Stalbridge, Dorset.
1912	1891, Jan. 17	ALLPORT, WILLIAM	36, Southampton Street, Strand, W.C.
597 {	{ A. '81, Jan. 10 } F. '84, Mar. 10 }	ANDERSON, ROBERT, JUN. . . .	The Barton, Cirencester.
1635	1889, Dec. 9	ANDREW, THOMAS HAWKES . .	Williton, Somerset.
1792	1890, May 29	ANDREWS, JOHN	13, Basinghall Street, E.C.
1631 {	{ A. '89, Nov. 25 } F. '92, Nov. 14 }	*ANSCOMBE, ERNEST	14, Constantine Road, Hampstead, N.W.
2150	1891, Nov. 4	ANSELL, WALTER RAYMOND . .	15, Coleman Street, E.C.
287	1872, Dec. 9	APPERLEY, WILLIAM HAVARD .	Hereford.
198	1869, May 3	ARDING, CHARLES B., A.R.I.B.A.	22, Surrey Street, Strand, W.C.
1193	1884, Apr. 21	ARMISTEAD, RICH'D., A.M.I.C.E.	118, Main Street, Bingley, Yorkshire.
791	1882, Apr. 24	ARMSTRONG, THOMAS JOHN . .	14, Hawthorn Terrace, Newcastle-on-Tyne.
1730	1890, Feb. 24	ARMYTAGE, GEORGE JOHN . .	Kirklees Park, Brighouse, Yorkshire.
1505	1888, Dec. 10	ARNOLD, FRANCIS	Chilland, Winchester, and Hambledon, Hants.
1709	1890, Feb. 10	ARNOLD, WILLIAM	{ 23, George Street, Tamworth, and Grenville Buildings, 12, Cherry Street, Birmingham.
1541	1889, Jan. 14	ASHDOWN, AUGUSTUS HARDING .	Uppington, Wellington, Salop.
1624	1889, May 18	ATKINS, SYDNEY GEORGE . . .	The Hall, Coston, Wymondham, Norfolk.
2151	1891, Nov. 4	AULT, EDWIN	Great George Street Chambers, Westminster, S.W.
2152	1891, Nov. 4	AUSTEN, FRANK	Marling Place, Wadhurst, Sussex.
1793	1890, May 29	AUSTIN, RICHARD	Bishop's Waltham, Hants.
1408 {	{ A. '87, Dec. 19 } F. '91, Oct. 15 }	*AUSTIN, RICHARD, JUN. . . .	Bishop's Waltham, Hants.
404	1875, Nov. 8	AUSTIN, RUSSELL GARDENER . .	Hertford.
1913	1891, Jan. 17	AUNLEY, ROBERT JOHN . . .	Gosforth, Newcastle-on-Tyne, Northumberland.
798 {	{ A. '82, Apr. 24 } F. '90, Apr. 14 }	AYRES, CHARLES PRYOR	52, High Street, Watford, Herts.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1914	1891, Jan. 17	BACON, FRANK MACE . . .	Attleborough, Norfolk.
1915	1891, Jan. 17	BACON, HORACE	Attleborough, Norfolk
140 {	A. '68, Nov. 2 } F. '87, Feb. 7 }	BADCOCK, PHILIP	9, Whitehall Place, S.W.
1767	1890, Mar. 24	BAILEY, HARRY DAVID CHINERY	Fundenhall Grange, near Wymondham, Norfolk.
665 {	A. '81, Dec. 19 } F. '89, Nov. 11 }	BAILEY, LEONARD	Estate Office, Scorton, Garstang, Lancashire.
1833	1890, Nov. 23	BAILEY, STEPHEN	Nynehead, Wellington, Somerset.
2057	1891, May 23	BAILEY, WILLIAM SMITH . . .	4, Kirkgate, Newark-upon-Trent.
1506	1888, Dec. 10	BAINBRIDGE, ROBERT STAGG .	Keverstone, near Staindrop, Durham.
2153	1891, Nov. 4	BAINES, MATTHEW TALBOT . .	Estate Office, Brodsworth, Doncaster, Yorks.
1005 {	A. '83, Dec. 17 } F. '84, Dec. 8 }	BAIRD, JONATHAN PEEL . . .	Estate Office, Somerley, Ringwood, Hants.
2154	1891, Nov. 4	BAKER, JOHN	High Street, Slough.
1690 {	A. '90, Jan. 6 } F. '91, Dec. 7 }	*BALL, WILLIAM ALFRED . . .	Lynton, Brockley Road, Forest Hill, S.E.
2155	1891, Nov. 4	BALLANTINE, EDWIN	101, Leadenhall Street, E.C.
479	1877, Mar. 12	BALLS, JAMES MAYHEW . . .	Castle Hedingham, Essex.
1560	1889, Jan. 28	BANCROFT, HENRY, M.I.C.E.	Kay's Chambers, 26, Cooper Street, Manchester.
2156	1891, Nov. 4	BANKS, JOHN	Kendal, Westmoreland.
1916	1891, Jan. 17	BANKS, THOMAS	60, King Street, Manchester.
606	1881, Feb. 7	BANNISTER, THOMAS	Limehurst, Hayward's Heath, Sussex.
712	1882, Jan. 30	BARFIELD, FREDERIC HENRY .	56, Lancaster Road, Stroud Green, N.
1250	1885, Mar. 9	BARKER, CALEB	Estate Office, Shadwell, Thetford.
1985	1891, Mar. 14	BARKER, HORACE RICHARD . .	25, Motcomb Street, Belgrave Square, S.W.
1661 {	A. '89, Dec. 9 } F. '91, June 29 }	*BARNES, GEORGE FREDERICK .	{ Estate Office, Wingerworth Hall, near Chester-field.
983	1883, Dec. 17	BARNES, JOHN WILLIAM JAMES	Brougham Chambers, Wheeler Gate, Nottingham.
1907	1886, Feb. 22	BARNES-WILLIAMS, T., F.R.I.B.A.	11, Clement's Lane, E.C.
2157	1891, Nov. 4	BARR, JAMES, M.I.C.E.	221, West George Street, Glasgow.
2158	1891, Nov. 4	BARRATT, FREDERICK WILLIAM .	The Vestry Hall, Bethnal Green, E.
2159	1891, Nov. 4	BARROW, THOMAS ROBERT . . .	Arnold House, Windsor Road, Southport.
118	1868, Aug. 17	BARRY, CHARLES, F.R.I.B.A. . .	1, Victoria Street, S.W.
1917	1891, Jan. 17	BARRY, DENNETT HEBER . . .	41, Bedford Row, W.C.
2058	1891, May 23	BARTON, HARRY HOWELL . . .	17, Guildhall Street, Folkestone, Kent.
1056	1884, Jan. 28	BATE, THOMAS	The Red Tower, Kilburn, N.W.
2160	1891, Nov. 4	BATEMAN, JOHN	Hall Garth, Clapham, Yorkshire.
1986	1891, Mar. 14	BATEY, HENRY SIMPSON . . .	51, King Street, Manchester.
726	1882, Feb. 13	BATH, FRED., F.R.I.B.A. . . .	Crown Chambers, Salisbury, Wilts.
1918	1891, Jan. 17	BATHER, JOHN T.	9, The Square, Shrewsbury.
2161	1891, Nov. 4	BATSTONE, ROWLAND ROBERT .	110, Cannon Street, E.C.
1968	1887, Feb. 7	BATTAM, FREDERICK THOMAS .	{ 17, Hart Street, Bloomsbury, W.C., and 28, Mount Street, Grosvenor Square, W.
1580	1889, Feb. 25	BATTERBURY, T., A.R.I.B.A. . .	29, John Street, Bedford Row, W.C.
2162	1891, Nov. 4	BATTING, WALTER	7, John Street, Adelphi, W.C.
2481	1892, Feb. 26	BAXTER, GEORGE	1, Frederick's Place, E.C.
2163	1891, Nov. 4	BEALE, ROBERT J., A.R.I.B.A. .	9, Victoria Street, S.W.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1282	{ A. '85, Dec. 7 } { F. '89, Nov. 11 }	*BEARD, EDWIN THOMAS . . .	Wallsend, Pevensey, Sussex.
148	{ A. '68, Nov. 9 } { F. '89, Nov. 11 }	BEAUCHAMP, CHARLES DAVIE . . .	9, Whitehall Place, S.W.
1450	1888, Feb. 6	BEAUMONT, CHARLES . . .	East Bridgford, near Nottingham.
186	1868, Nov. 2	BEAUMONT, GEORGE . . .	East Bridgford, near Nottingham.
2164	1891, Nov. 4	BECK, ARTHUR CLEMENT . . .	Castle Rising, King's Lynn, and Sandringham.
1457	1888, Feb. 20	BECK, EDWARD WILLIAM . . .	City Chambers, Norwich.
2165	1891, Nov. 4	BECK, FRANK REGINALD . . .	Sandringham, Norfolk.
1561	1889, Jan. 28	BECKWITH, HENRY LANGTON . . .	14, North John Street, Liverpool.
959	{ A. '83, May 25 } { F. '87, May 23 }	*BEDELLS, CHARLES HERBERT . . .	6, John Street, Bedford Row, W.C.
525	1879, Jan. 6	BEDELLS, CHARLES KING . . .	6, John Street, Bedford Row, W.C.
317	1873, Dec. 8	BEESTON, FRED., F.R.I.B.A. . .	30, Lincoln's Inn Fields, W.C.
1451	1888, Feb. 6	BEEVER, WM. FREDERICK HOLT . . .	Greelands Estate Office, Henley on-Thames.
1433	1888, Jan. 9	BEKEN, GEORGE	2, Circus Place, London Wall, E.C.
1987	1891, Mar. 14	BEKEN, WALTER	2, Circus Place, London Wall, E.C.
2166	1891, Nov. 4	BELL, ALBERT WILLIAM . . .	18, Bank Street, Accrington.
630	1881, Dec. 19	BELL, GEORGE GRAHAM . . .	9, Victoria Street, S.W.
1458	1888, Feb. 20	BELL, JOSEPH ASKEW . . .	Rufford Estate Office, Ollerton, Notts
1187	1884, May 26	BENINGFIELD, HENRY . . .	44, Haymarket, S.W.
1753	1890, Mar. 10	BENNETT, GEORGE	Buckingham.
388	1875, Mar. 1	BENNETT, THOMAS OATLEY . . .	Bruton, Somerset.
1212	{ A. '84, Nov. 10 } { F. '90, Dec. 8 }	*BENSON, ROBERT ALAN . . .	Duchy of Cornwall Office, Liskeard, Cornwall.
1214	1884, Dec. 8	BERTWISTLE, JAMES	1, Tackett's Street, Blackburn.
984	1883, Dec. 17	BETRIDGE, EDWARD	28, Waterloo Street, Birmingham.
1289	1885, Jan. 12	BICKERTON, GEORGE ARTHUR . . .	12, King William Street, E.C.
190	1869, Mar. 22	BIDWELL, CHARLES	Ely, Cambridgeshire.
(Member of Council)			
2167	1891, Nov. 4	BILSON, JOHN, F.R.I.B.A. . . .	23, Parliament Street, Hull.
2059	1891, May 23	BINGHAM, ALFRED JOHN . . .	{ Nalder Hill House, Newbury, and 5, Bolton Street, Piccadilly, W.
1919	1891, Jan. 17	BINGHAM, FREDERICK HENRY . . .	5, Bolton Street, Piccadilly, W.
396	1875, Apr. 12	BINGHAM, REUBEN	5, Bolton Street, Piccadilly, W.
131	1868, Oct. 26	BINNIE, THOMAS	207, Hope Street, Glasgow.
1390	{ A. '86, Dec. 6 } { F. '89, Nov. 11 }	*BIRCH, WALTER DE HOGHTON . . .	Kerry, Newtown, Montgomeryshire.
1490	1888, Nov. 12	BIRD, JAMES BINFIELD . . .	{ West Cowes, Isle of Wight, and 14, Queen Victoria Street, E.C.
1636	1889, Dec. 9	BIRD, JOHN	Brampton, Huntingdon.
1154	1884, May 5	BIRD, WALTER	61, Edgware Road, W.
1351	{ A. '87, Jan. 10 } { F. '89, Feb. 25 }	BIRKETT, TOM	Foxton House, Penrith, Cumberland.
1320	1886, May 17	BIRKETT, WILLIAM	{ Don Villa, Cleetnorpe Road, Grimsby, Lincoln- shire.
1794	1890, May 29	BISHOP, CHARLES	Regent Circus, Swindon, Wilts.
1326	1886, Dec. 6	BLACKFORD, ARTHUR	61 & 62, Chancery Lane, W.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1262	1885, Mar. 23	BLAKE, FREDERICK	130, Queen Street, Portsea, Hants.
2168	1891, Nov. 4	BLAKE, GEORGE	Stradey Estate Office, New Road, Llanelli.
888	1883, Feb. 12	BLAKE, WILLIAM JOHN, JUN. .	45, High Street, Croydon.
778	1882, Mar. 13	BLAKEMORE, WILLIAM AGUTTER	6, Duke Street, Adelphi, W.C.
1057	1884, Jan. 28	BLASHILL, THOMAS, F.R.I.B.A..	London County Council, Spring Gardens, S.W.
2169	1891, Nov. 4	BLENCOWE, GEORGE	Bury St. Edmunds.
2170	1891, Nov. 4	BLETSOE, HENRY HOPKINSON .	Thrapstone, Oundle.
1058	1884, Jan. 28	BLEWITT, EDWARD ROBERT .	Rainham, Essex.
1988	1891, Mar. 14	BLIZARD, JOHN HY., A.M.I.C.E.	Lansdowne House, Castle Lane, Southampton.
511	{ A. '78, May 13 } { F. '87, Mar. 7 }	BLOSSE, EDWARD F. LYNCH .	Charles Street Chambers, Cardiff.
2171	1891, Nov. 4	BLYTON, GEORGE	16, The Hawthorns, Church End, Finchley, N.
768	{ A. '82, Feb. 28 } { F. '89, Nov. 11 }	BOA, ANDREW	Great Thurloe, Newmarket, Suffolk.
1452	1888, Feb. 6	BODY, JOHN BOND	15, Princess Square, Plymouth.
330	1874, Feb. 2	BOLAM, CHARLES GODFREY .	{ Estate Office, Boughton House, Kettering, Northamptonshire, and 82 & 83, Palace Chambers, S.W.
450	1876, May 8	BOLAM, WILLIAM THOMAS .	{ Cross House, Westgate Road, Newcastle-upon-Tyne.
408	1875, Dec. 13	BOLDEN, JOHN LEONARD . .	Duchy of Lancaster Office, Lancaster Place, W.C.
2060	1891, May 23	BOND, DOUGLAS VALE . . .	22, Surrey Street, Strand, W.C.
199	1869, May 3	BOND, ERASMUS	The Lodge, Englefield Green, near Staines.
24	1868, Jun. 15	BONNY, JAMES RIPPOTH . .	{ Palmer's Hill House, Palmer's Green, Southgate, N., and 47, Old Broad Street, E.C.
960	{ A. '83, May 25 } { F. '87, Apl. 12 }	*BONTOR, FRANK ARTHUR . .	35 & 36, Old Bond Street, W.
813	1882, May 22	BOOKER, ALGERNON ERSKINE .	Albion House, Hyde Park Square, W.
846	{ A. '82, Dec. 18 } { F. '91, Oct. 15 }	BOOTH, JOHN FREDERICK . .	35, Church Street, St. Helen's, Lancashire.
2172	1891, Nov. 4	BOOTHBY, HENRY VERNON . .	Estate Office, Keele, Newcastle, Staffordshire.
632	1881, Dec. 19	BOTTERILL, WILLIAM . . .	23, Parliament Street, Hull.
1883	{ A. '90, Nov. 22 } { F. '91, June 29 }	*BOULTING, FREDERICK EDWARD	Albert Gate Mansions, S.W.
1795	1890, May 29	BOURNE, ROBERT ELLIOTT .	Elwell, Totnes, Devon.
1380	1887, Mar. 21	BOVILL, ALFRED, F.R.I.B.A. .	13, Buckingham Street, Strand, W.C.
1507	1888, Dec. 10	BOWDEN, JOHN	14, Ridgefield, Manchester
2173	1891, Nov. 4	BOWDICH, JOHN	28, Moorgate Street, E.C.
1777	1890, Apr. 14	BOWDITCH, HENRY	103, George Street, Croydon.
1778	1890, Apr. 14	BOWLEY, JOHN CROSS . . .	Beeston, near Nottingham.
1491	1888, Nov. 12	BOWMAN, JOHN JAMES . . .	Estate Office, Netherby, Carlisle.
1685	1890, Jan. 6	BOYD, JOHN JERMYN . . .	125, Piccadilly, W.
1476	1888, Apr. 16	BOYES, HY. COWELL, F.R.I.B.A.	62, Lincoln's Inn Fields, W.C.
1325	1886, Nov. 22	BRACKETT, ARTHUR WILLIAM .	27, High Street, Tunbridge Wells, Kent.
1884	{ A. '90, Nov. 22 } { F. '92, May 30 }	*BRACKETT, FREDERICK HENRY.	27, High Street, Tunbridge Wells, Kent.
870	1883, Jan. 29	BRACKETT, WILLIAM	27, High Street, Tunbridge Wells, Kent.
2174	1891, Nov. 4	BRADFORD, WALTER	Rose Cottage, Church Road, Wimbledon.
2175	1891, Nov. 4	BRADLEY, WILLIAM EDWARD .	The Hall, Ebberston, York.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1562	1889, Jan. 28	BRADY, CHARLES ALLDIS . . .	17, Warren Street, Stockport.
1989	1891, Mar. 14	BRADY, WILLIAM HOLLINSHED .	17, Warren Street, Stockport.
1397	1887, Dec. 5	BRAILSFORD, HENRY	Park Nook, near Derby.
1059	1884, Jan. 28	BRAY, HARRY	14, Warwick Court, Gray's Inn, W.C.
1441	1888, Jan. 28	BREACH, BENJAMIN I'ANSON .	2 and 3, Serle Street, Lincoln's Inn Fields, W.C.
727	1882, Feb. 18	BRERETON, FRANC S., F.R.I.B.A.	292, High Holborn, W.C.
2176	1891, Nov. 4	BRERETON, THOMAS BLOOMFIELD } SADLEIR	292, High Holborn, W.C.
1920	1891, Jan. 17	BREWER, FRANK JOHN, F.R.I.B.A.	2, Upper Hill Street, Richmond, Surrey.
1921	1891, Jan. 17	BRIANT, ROBERT	200, Kennington Park Road, S.E.
829	1882, Dec. 18	BRIDGEWATER, BENTLEY JAMES	80, Cheapside, E.C.
1370	1887, Feb. 21	BRIDGFORD, ERNEST JAMES .	28, Cross Street, Manchester.
1309	1886 Mar. 8	BRIDGFORD, COL. ROBERT, C.B.	28, Cross Street, Manchester.
953	1883, May 25	BRINSLEY, GEORGE	30 and 31, New Bridge Street, E.C.
2177	1891, Nov. 4	BROCKLEBANK, JOHN	58A, Yorkshire Street, Rochdale.
2178	1891, Nov. 4	BRODRICK, FREDERICK STEAD .	Cogan Chambers, Bowl Alley Lane, Hull.
2179	1891, Nov. 4	BROOKING, EDWIN WILLIAM .	38, Parliament Street, S.W.
1990	1891, Mar. 14	BROOKS, CHARLES W., A.R.I.B.A.	63, Finsbury Pavement, E.C.
1834	1890, Nov. 22	BROSTER, ROBERT BUCK . . .	6 & 8, Temple Street, Keighley.
2135	{ A. '91, May 23 } { F. '93, May 29 }	*BROWN, ALEXANDER BURNETT .	The Bays, Hampton Wick.
1060	1884, Jan. 28	BROWN, BRADSHAW	Billiter Square Buildings, E.C.
322	1874, Jan. 5	BROWN, DANIEL JOHNSON . . .	10, Hill's Place, Oxford Street, W.
1500	1888, Nov. 26	BROWN, FRANK JOHN	Tring, Herts.
63	1868, Jul. 13	BROWN, GEORGE	Roborough House, Barnstaple, Devonshire.
634	1881, Dec. 19	BROWN, GEORGE JAMES	34, Great George Street, S.W.
933	1883, April 30	BROWN, JOHN POWLES	21, East Street, Hereford.
173	1869, Feb. 22	BROWN, THOMAS F., M.I.C.E. .	Guildhall Chambers, Cardiff.
2061	1891, May 28	BROWN, WILLIAM	67, Renfield Street, Glasgow.
1313	1886, May 3	BROWN, WILLIAM BLUMFIELD .	7, Southampton Street, Bloomsbury, W.C.
1142	{ A. '84, Apr. 21 } { F. '90, Apr. 14 }	BROWNE, FLINT	73, Cheapside, E.C.
1046	{ A. '84, Jan. 14 } { F. '90, Mar. 24 }	BRUCE, ROBERT KNIGHT . . .	{ Mentmore Estate Office, Leighton Buzzard, Bucks.
2482	1892, Feb. 26	BRUTON, HENRY WILLIAM . . .	Albion Chambers, Gloucester.
2180	1891, Nov. 4	BRYDEN, ROBERT A., F.R.I.B.A.	212, St. Vincent Street, Glasgow.
1291	1886, Jan. 11	BRYDON, ROBERT	The Dene, Seaham-Harbour, Durham.
246	1870, Dec. 12	BUCHAN, THOMAS	15, Barrack Street, Dundee.
77	1863, July 13	BUCK, ALBERT (Member of Council)	Worcester.
1542	1889, Jan. 14	BUCK, HERBERT WILSON . . .	Pierpoint Street, Worcester.
1284	{ A. '85, Dec. 7 } { F. '89, Jan. 14 }	*BUCKLAND, ALFRED VIRGOE .	66, Cannon Street, E.C.
270	1871, Dec. 18	BUCKLAND, FRANK BOWRY . . .	Windsor.
1684	1890, Jan. 6	BUCKLAND, HENRY DUNEAU . .	23, Hart Street, Bloomsbury, W.C., and Windsor.
1835	1890 Nov 22	BUCKLEY, GEORGE	Tower Chambers, Halifax, Yorkshire.

Age. No.	Date of Election and of Transfer.		FELLOWS.	
181	1891, Nov.	4	BULL, ALFRED EDWIN	35, Craven Street, Charing Cross, W.C.
182	1891, Nov.	4	BULL, WALTER	35, Old Jewry, E.C.
192	1891, Jan.	17	BURCHELL, SIDNEY HERBERT .	Reigate, Surrey, and Wool Exchange, E.C.
215	1894, Dec.	8	BURD, LAURENCE	Mayfield, Shrewsbury.
543	1889, Jan.	14	BURD, TIMOTHEUS HENRY . .	School Gardens, Shrewsbury.
796	1890, May	29	BURMESTER, JOHN WILLIAM } STANLEY, F.R.I.B.A. . . . }	30, Lincoln's Inn Fields, W.C.
183	1891, Nov.	4	BURNET, FRANK	69, West Regent Street, Glasgow.
797	1890, May	29	BURNETT, ALFRED ANDREW . .	2, High Street, Southampton.
635	1881, Dec.	19	BURNETT, DAVID	14, Nicholas Lane, E.C.
625	1889, May	13	BURNETT, GEORGE JOHN } MULCASTER. }	Bylands, Redbourn, Herts.
379	1875, Feb.	1	BURROUGHES, THOMAS HENRY.	{ 30, Lincoln's Inn Fields, W.C., and 16, Lower Berkeley Street, W.
332 {	A. '86, Dec. 6 }		*BURROWS, ALFRED JOHN . . .	41, Bank Street, Ashford, Kent.
	F. '90, Jan. 6 }			
1216	1884, Dec.	8	BURTENSHAW, ALBERT	Hailsham, Sussex.
1411 {	A. '87, Dec. 19 }		*BUSHELL, HENRY	22, Great James Street, Bedford Row, W.C.
	F. '91, May 25 }			
323	1874, Jan.	5	BUZZARD, ALFRED LINDSEY . .	22, Surrey Street, Strand W.C.
1637	1889, Dec.	9	BYRON, AUGUSTUS WILLIAM . .	Sutton Estate Offices, Duckmanton, Chesterfield.
2184	1891, Nov.	4	CABLE, JAMES M.	11, Acre Lane, Brixton, S.W.
1638	1889, Dec.	9	CÆSAR, CHARLES EDWARD . . .	105, Tooley Street, Southwark, S.E.
2185	1891, Nov.	4	CALVERT, ARTHUR RICHARD . .	14, Low Pavement, Nottingham.
1798	1890, May	29	CAMPBELL, HENRY HUNTER . .	Sutton Hall, St. Helen's, Lancashire.
1877	1887, Mar.	7	CANNING, WILLIAM BROWNE . .	Salisbury, and Elston, near Devizes.
787 {	A. '82, Mar. 27 }		CARD, HENRY CURTIS	North Street, Lewes, Sussex.
	F. '84, Jan. 14 }			
2483	1892, Feb.	26	CARDONA, JOSEPH, JUN. . . .	Waterport Street, Gibraltar.
1799	1890, May	29	CAREW, JOHN THEODORE	22, Surrey Street, Strand, W.C.
800 {	A. '82, Apr. 24 }		CARPENTER, EVAN GEORGE . . .	45, High Street, Croydon, Surrey.
	F. '83, Jan. 15 }			
2186	1891, Nov.	4	CARRINGTON, THOMAS	Kiveton Park, near Sheffield.
232 {	A. '70, Feb. 7 }		CARRITT, ERNEST, A.R.I.B.A. .	18 & 19, Great St. Helen's, E.C.
	F. '80, Nov. 22 }			
2187	1891, Nov.	4	CARSWELL, WILLIAM	Capesthorpe, Chelford, Cheshire.
636	1881, Dec.	19	CARTWRIGHT, SIR HENRY EDWARD	1, Courtfield Gardens, S.W.
2188	1891, Nov.	4	CARTWRIGHT, JOSHUA	Bury, Lancashire.
1991	1891, Mar.	14	CASTELL, CHARLES SMITH . . .	2, Pont Street, Belgrave Square, S.W.
1603	1889, Mar.	18	CASTLE, ARTHUR	11, King Edward Street, Oxford.
920	1883, April	16	CASTLE, GEORGE RICHARD . . .	Bicester, Oxford.
637	1881, Dec.	19	CASTLE, HENRY JAMES	37, Bedford Row, W.C.
1201 {	A. '84, May 26 }		CASTLE, SYDNEY CHARLES } COURTENAY. }	40, Chancery Lane, W.C., and Neustead, Auck- land Road, Upper Norwood, S.E.
	F. '87, Nov. 14 }			
278	1872, Mar.	11	CASTLE, WILLIAM HENRY BALDWIN	40, Chancery Lane, W.C.
247	1870, Dec.	12	CATES, ARTHUR, F.R.I.B.A. . .	7, Whitehall Yard, S.W.
362	1875, Jan.	4	CAVE, HENRY H.	Estate Office, Northampton.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1480	1888, Apr. 30	CAVE, THOMAS NEWMAN . . .	Horton, Northamptonshire.
1263	1885, Mar. 23	CHADWICK, SPENCER	17, Parliament Street, S.W.
1836	1890, Nov. 22	CHALK, HENRY PHILIP . . .	Linton, Cambridgeshire.
1061	1884, Jan. 28	CHANCELLOR, ALBERT . . .	1, King Street, Richmond, Surrey.
219	1870, Jan. 10	CHANCELLOR, FRED., F.R.I.B.A.	20, Finsbury Circus, E.C., and Chelmsford, Essex.
2189	1891, Nov. 4	CHAPMAN, HENRY JAMES. . .	50, Belgrave Road, S.W.
1800	1890, May 29	CHARLES, RICHARD STAFFORD .	St. Martin's House, 1, Gresham Street, E.C.
1768	1890, Mar. 24	CHART, ROBERT MASTERS . .	The Vestry Hall, Mitcham, Surrey.
2190	1891, Nov. 4	CHASEMORE, PHILIP	Ashleigh, Horsham, Sussex.
1923	1891, Jan. 17	CHATTELL, DAVID JAMES . .	29A, Lincoln's Inn Fields, W.C.
2191	1891, Nov. 4	CHATTERTON, GEO., M.I.C.E. .	46, Queen Anne's Gate, S.W.
1274	1885, Nov. 23	CHESTERTON, EDWARD . . .	22, Lower Phillimore Place, Kensington, W.
1755	1890, Mar. 10	CHESTERTON, SIDNEY RAWLINS.	22, Lower Phillimore Place, Kensington, W.
1135	1884, Apr. 21	CHESTON, CHESTER	Dashwood House, New Broad Street, E.C.
1992	1891, Mar. 14	CHESTON, HORACE, F.R.I.B.A.	5, Union Court, Old Broad Street, E.C.
2192	1891, Nov. 4	CHETWOOD, STEPHEN. . . .	Waltham Abbey, Essex.
2193	1891, Nov. 4	CHEW, HENRY VICTOR	43, New Broad Street, E.C.
1781	1890, Feb. 24	CHILD, FRED	65 & 66, Chancery Lane, W.C.
57	1868, Jul. 6	CHINNOCK, FREDERICK GEORGE	11, Waterloo Place, S.W.
1993	1891, Mar. 14	CHOWEN, HENRY LLEWELLYN .	{ Londesborough Estate Office, Market Weighton Yorkshire.
1112 { A. '84, Feb. 25 } { F. '91, June 29 }		CHRISTY, ARCHIBALD ERNEST .	
1847	1887, Jan. 10	CLARE, EDWARD LOVELL . . .	{ Yorkshire Bank Chambers, Bradford, and 33, Friar Lane, Leicester.
1563	1889, Jan. 28	CLARE, WILLIAM HARCOURT } LOVELL }	
2484	92 Feb. 26	CLARK, JOHN McCCLARE . . .	Haltwhistle, Northumberland.
1639	1889 Dec. 9	CLARK, NATHANIEL	Beamish Park, Chester-le-Street, Co. Durham.
681	1882, Jan. 16	CLARK, SAMUEL	8, New Cavendish Street, W.
682	1882, Jan. 16	CLARKE, ALFRED DUDLEY . .	Estate Office, Abberley, Stourport, Worcestershire.
1801	1890, May 29	CLARKE, CHRISTOPHER . . .	Charlcot, Bedale, Yorkshire.
1994	1891, Mar. 14	CLARKE, GEORGE ERNEST . .	12, Coleman Street, E.C.
1074 { A. '84, Jan. 2 } { F. '86, Jan. 11 }		CLARKE, HOWARD CHATFIELD .	63, Bishopsgate Street Within, E.C.
1508	1888, Dec. 10	CLARKE, JOHN WILLIAM . . .	Guisbrough, Yorkshire.
1007 { A. '83, Dec. 17 } { F. '89, Nov. 11 }		CLARKE, PERCY HENRY. . . .	2, Lancaster Place, W.C.
978	1883, Nov. 12	CLARKE, RICHARD	Surveyor's Office, Parish Offices, Birmingham.
1924	1891, Jan. 17	CLARKE, STANLEY	202, Bishopsgate Street Without, E.C.
27	1868, Jun. 15	CLARKE, THOMAS C., F.R.I.B.A. (Vice-President)	63, Bishopsgate Street Within, E.C.
2194	1891, Nov. 4	CLARKSON, JOHN, F.R.I.B.A. .	Ormond Chambers, 28, Great Ormond Street, W.C.
1837	1890, Nov. 22	CLARKSON, WILLIAM	146, High Street, Poplar, E.
1686	1890, Jan. 6	CLIFTON, JAMES E., F.R.I.B.A.	Swanage, Dorset.
1122 { A. '84 Mar. 10 } { F. '89 Jan. 28 }		CLIFTON, WM. E., F.R.I.B.A. .	7, East India Avenue, Leadenhall Street, E.C.

P. No.	Date of Election and of Transfer.	FELLOWS.	
01	1890, Jan. 27	Clough, Richard Charles Butler	Ty Maur, Denbigh, North Wales.
10	1886, Mar. 8	Clough-Taylor, Horace Geo.	39, Friar Lane, Leicester.
29	1868, Jun. 15	Clutton, Henry, F.R.I.B.A.	Hartswood, Reigate, Surrey.
6	1868, Jun. 15	Clutton, John (Past-President)	9, Whitehall Place, S.W.
78	{ A. '68, Jul. 13 F. '75, May 10 }	Clutton, John Henry	9, Whitehall Place, S.W.
61	{ A. '68, Jul. 6 F. '74, Apr. 13 }	Clutton, Ralph	9, Whitehall Place, S.W.
221	{ A. '70, Jan. 10 F. '75, Dec. 13 }	Clutton, Ralph William	Hartswood, Reigate, Surrey.
65	1868, Jul. 13	Clutton, Robert George (Member of Council)	9, Whitehall Place, S.W.
53	1869, Jan. 11	Clutton, William James	The Mount, York, and The Castle, Cockermouth.
713	1882, Jan. 30	Cobb, Herbert Mansfield	Higham, Kent, and 53, Lincoln's Inn Fields, W.C.
544	1889, Jan. 14	Cobham, Charles	{ "The Shrubbery," Gravesend, Kent, and Local Board Office, Grays, Essex.
388	1890, Nov. 22	Cobham, George Radcliffe	1 & 3, Edwin Street, Gravesend, Kent.
195	1891, Nov. 4	Cocks, Robert	Estates Office, Altrincham, Cheshire.
196	1891, Nov. 4	Cocks, Samuel Roger	5, St. Thomas' Street, Ryde, Isle of Wight.
574	1889, Feb. 11	Coles, John Robert	181, Queen Victoria Street, E.C.
539	1890, Nov. 22	Coles, Samuel Hood Cowper	Penmyarth, Crickhowell, S. Wales.
769	{ A. '82, Feb. 27 F. '84, Jan. 28 }	Colgate, Thomas	Sheffield Park, Uckfield, Sussex.
710	1890, Feb. 10	Collier, Richard James	34, Finsbury Pavement, E.C.
197	1891, Nov. 4	Collier, Walter Henry	31, Moorgate Street, E.C.
414	{ A. '87, Dec. 19 F. '91, Feb. 2 }	Collingham, John Cyril Lees	19, Mount Street, W.
119	1868, Aug. 17	Collins, Henry H., F.R.I.B.A.	61, Old Broad Street, E.C.
826	{ A. '82, Dec. 4 F. '91, Jan. 19 }	Collins, Marcus E.	61, Old Broad Street, E.C.
198	1891, Nov. 4	Coltman, Walter John	39, Great James Street, Bedford Row, W.C.
925	1891, Jan. 17	Colyer, Frederick, M.I.C.E.	18, Great George Street, S.W.
501	1888, Nov. 26	Combes, Cyrus	{ Tisbury, Wilts, and Misterton, Crewkerne Somerset.
193	1869, Apr. 5	Comely, John Gill	Winchester, Hants.
4062	1891, May 23	Commin, Frederick James	7, Bedford Circus, Exeter.
926	1891, Jan. 17	Conder, Alfred, F.R.I.B.A.	Palace Chambers, 9, Bridge Street, S.W.
1564	1889, Jan. 28	Cooke, Henry	Thong, near Gravesend.
1172	1884, May 19	Cooper, Arthur Leslie	17, Friar Street, Reading.
2199	1891, Nov. 4	Cooper, George Warren	Bedford Row House, Bedford Row, W.C.
715	1882, Jan. 30	Cooper, John Groves	Bideford, Devon.
1927	1891, Jan. 17	Cooper, John Robert	{ 35, Old Jewry, E.C., and Queen's Lodge, West End Lane, West Hampstead, N.W.
1895	1883, Feb. 26	Cooper, John Thomas	35, Barrington Road, Brixton, S.W.
445	1876, Apr. 24	Coote, George	Smetham Hall, Sudbury, Suffolk
2200	1891, Nov. 4	Copland, William R., M.I.C.E.	146, West Regent Street, Glasgow.
2201	1891, Nov. 4	Corbett, Christopher	9, Albert Square, Manchester.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1597	1889, Mar. 4	CORBETT, EDWIN WORTLEY MONTAGU	Bute Estate Office, Castle Street, Cardiff.
2202	1891, Nov. 4	CORBY, JOSEPH BOOTHROYD	Scotgate, Stamford, Lincolnshire.
2453	{ A. '91, Nov. 4 } { F. '92, May 30 }	*CORDEROY, ATHELSTANE	19, Queen Anne's Gate, S.W.
1581	1889, Feb. 25	CORDEROY, GEORGE	19, Queen Anne's Gate, S.W.
926	{ A. '83, Apr. 16 } { F. '89, Nov. 11 }	COUCHMAN, HENRY BOTELER	5, Avon Place, Warwick.
934	1888, April 30	COUCHMAN, ROBERT EDWARD	35, Paradise Street, Birmingham.
2203	1891, Nov. 4	COULSON, WILLIAM LINDSAY	13, Ruigny Gardens, Putney, S.W.
556	1880, Jan. 5	COVERDALE, FREDERICK JOHN	Ingatestone Hall, Essex.
728	1882, Feb. 13	COVERDALE, HENRY	27, Bishopsgate Street Within, E.C.
1840	1890, Nov. 22	COWGILL, BRIAN BOLLANS HIRD	13a, Piece Hall Yard, Bradford.
1732	1890, Feb. 24	COX, EDWARD SAMUEL	3, New Street, York
729	1882, Feb. 13	COX, GEORGE JAMES	1, Promenade, Cheltenham.
2204	1891, Nov. 4	CRANFIELD, WILLIAM BATHGATE	6, Poultry, E.C.
159	1869, Jan. 25	CRAWTER, JOHN	Cheshunt, Herts.
961	{ A. '83, May 25 } { F. '88, Nov. 26 }	CRAWTER, JOHN, JUN.	41, Bedford Row, W.C., and Cheshunt, Herts.
160	1869, Jan. 25	CRICKMAY, GEORGE RACKSTROW, F.R.I.B.A.	{ 17, Parliament Street, S.W., and St. Thomas Street, Weymouth.
641	1889, Dec. 9	CRICKMAY, JOHN EDWARD	Weymouth, Dorset.
2205	1891, Nov. 4	CROCKETT, EDWIN ARTHUR BRASSEY	{ 6, Poultry, E.C.
608	{ A. '81, Feb. 7 } { F. '90, Feb. 24 }	CROFTS, EWAN NEVILLE	Fulbeck, Grantham, Lincolnshire.
730	1882, Feb. 13	CRONK, EDWIN EVANS	12, Pall Mall, S.W., and Sevenoaks, Kent.
731	1882, Feb. 13	CRONK, FRANK	12, Pall Mall, S.W., and Sevenoaks, Kent.
871	1833, Jan. 29	CRONK, WILLIAM HENRY	Sevenoaks, Kent.
416	1876, Jan. 10	CROSS, JOHN (Member of Council)	77, King Street, Manchester.
1754	1890, Mar. 10	CROSS, WILLIAM HASLAM	77, King Street, Manchester.
307	1873, Apr. 21	CROSS, WILLIAM S., F.R.I.B.A.	18, Outer Temple, and 2, Cecil Street, Strand, W.C.
2206	1891, Nov. 4	CROWTHER, JOHN HERBERT	38, New Street, Huddersfield.
389	{ A. '75, Mar. 1 } { F. '80, Nov. 8 }	CRUSE, EDMUND	{ 24, Bridge Street, Bristol, and Charleville, Clevedon, Somerset.
2208	1891, Nov. 4	CRUWYS, ROBERT	Bank Chambers, 465, Brixton Road, S.W.
1928	1891, Jan. 17	CUMBERLAND, EDWARD ANTHONY	Luton and Leighton Buzzard.
1604	1889, Mar. 18	CUNDY, HUBERT JOHN	Wetherby and Leeds, Yorkshire.
32	1868, Jun. 15	CURREY, HENRY, F.R.I.B.A.	37, Norfolk Street, W.C.
1565	1889, Jan. 28	CURREY, PERCIVALL, F.R.I.B.A.	37, Norfolk Street, W.C.
1381	1887, Mar. 21	CURRY, HENRY JOHN	58, High Street, Stockton-on-Tees.
581	1880, Dec. 13	CURTIS, CHARLES EDWARD	26, Gledstanes Road, West Kensington, W.
483	1877, Apr. 16	CURTIS, ROBERT LEABON	119 and 120, London Wall, E.C.
543	1879, Apr. 28	CURTIS, SAMUEL PERKINS	119 and 120, London Wall, E.C.
2063	1891, May 23	CUTLAN, JOHN ELLIS	{ Market Square, Wellingborough. Northamptonshire.
2209	1891, Nov. 4	CUYSON, GEO. A. P., A.R.I.B.A.	17, Victoria Street, S.W.

<i>Date of Election and of Transfer.</i>		FELLOWS.	
6	1883, Dec. 17	DAINTREE, JOHN OSBORN . . .	"Lola," Teignmouth, Devon.
7	{ A. '75, Feb. 15 F. '84, Jan. 14 }	DALE, JOHN	16, Whitehall Place, S.W.
8	1881, Dec. 19	DALLAS, EDWIN STUART . . .	34, Great James Street, Bedford Row, W.C.
7	1883, Dec. 17	DANIEL, HARRY AUGUSTUS HOOD	Keynsham Manor, near Saltford, Somerset.
2	1882, Feb. 13	DANN, HENRY	Dartford, Kent.
0	1891, Nov. 4	DANSKEN, JOHN	121, West Regent Street, Glasgow.
16	{ A. '89, Dec. 9 F. '91, Apr. 6 }	*DARCH, JOHN	74, Sarsfeld Road, Balham, S.W.
0	1878, Apr. 29	DARLEY, WILLIAM	Llangwnr, Corwen, North Wales.
17	{ A. '83, Feb. 26 F. '91, May 25 }	DASH, ROLAND ASHFORD . . .	9, Whitehall Place, S.W., and Walton-on-Thames.
16	1883, Feb. 26	DASH, THOMAS ALEXIS . . .	Faris Tarn, Woodham Lock, Addlestone, Surrey.
27	{ A. '88, Dec. 10 F. '92, July 4 }	*DAVEY, HENRY THOMAS . . .	34, Cambridge Gardens, Hastings.
35	1891, Mar. 14	DAVEY, JOHN GEORGE ELLIS . .	Holkham, Norfolk.
48	{ A. '82, Dec. 18 F. '90, Nov. 10 }	DAVID, EDMUND USSHER . . .	Llandaff, near Cardiff.
39	1888, Dec. 10	DAVIES, GEORGE HUMPHREYS . .	8, Laurence Pountney Hill, E.C.
33	1889, Feb. 25	DAVIES, JOHN	Mollington, Chester.
00	1873, Feb. 10	DAVIES, JOHN MORGAN . . .	Froodvale, Llanwrda, South Wales.
11	1891, Nov. 4	DAVIES, WALTER	6, Waterloo Place, S.W.
12	1891, Nov. 4	DAVIS, ALFRED T., A M.I.C.E. .	Shirehall, Shrewsbury.
96	1891, Mar. 14	DAVIS, CHARLES EDWARD . . .	Kirtling, near Newmarket, Cambs.
80	{ A. '82, Mar. 13 F. '89, Nov. 11 }	DAVIS, CHARLES JAMES . . .	32, Strand, W.C.
13	1891, Nov. 4	DAVIS, FREDERICK WILLIAM . .	Bridge House, 181, Queen Victoria Street, E.C.
91	{ A. '77, Dec. 10 F. '81, Nov. 14 }	DAVIS, JAMES	32, Strand, W.C.
97	1883, Feb. 26	DAW, WILLIAM HERBERT . . .	62, Coleman Street, E.C.
14	1891, Nov. 4	DAWSON, EDWARD H., A.R.I.B.A.	41, Market Street, Lancaster.
929	1891, Jan. 17	DAWSON, JOHN GEORGE . . .	{ 4, Lincoln's Inn Fields, W.C., and Kingston-on-Thames.
215	1891, Nov. 4	DAWSON, PERCY JOHN . . .	100, Jermyn Street, St. James's, S.W.
342	1889, Dec. 9	DAY, GEORGE CARLETON . . .	Estate Office, Woodbridge, Shaftesbury, Dorset.
909	{ A. '83, Dec. 17 F. '87, Nov. 14 }	*DAY, WILLIAM, JUN.	23, High Street, Maidstone, Kent.
583	1882, Jan. 16	DEACON, THOMAS MARK . . .	1, Adelaide Street, Charing Cross, S.W.
733	1890, Feb. 24	DEANE, EDWARD	148, Friar Street, Reading, Berks.
756	1890, Mar. 10	DEARLE, WILLIAM HENRY . . .	6, John Street, Adelphi, W.C.
442	1888, Jan. 23	DEBENHAM, FRANK GISSING . .	Cheshunt Park, Herts, and 80, Cheapside, E.C.
216	1891, Nov. 4	DEER, EDWARD	Stratford-on-Avon.
010	{ A. '83, Dec. 17 F. '91, Oct. 15 }	DEMETRIADI, THOMAS MARSDEN	28, John William Street, Huddersfield.
930	1891, Jan. 17	DENNISON, JOHN W., F.R.I.B.A.	Wakefield Lodge, East Ham, Essex.
863	1883, Jan. 15	DENT, RALPH JOHN	The Cedars, Harrogate, Yorkshire.
759	1882, Feb. 27	DEW, WILLIAM ARTHUR . . .	Wellfield House, Bangor.
711	1890, Feb. 10	DE WEND, WILLIAM FENTON . .	New Market Buildings, Bridgnorth.
223	{ A. '84, Dec. 8 F. '85, May 18 }	*DICKSON, THOMAS ARTHUR . .	Estate Office, Overston Park, Northampton.
884	1883, Feb. 12	DINWIDDY, THOMAS	Crookin's Hill, Greenwich Park, S.E.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
169	{ A. '69, Feb. 8 } F. '78, Feb. 25	DODGSON, WILFRED LONGLEY . . .	{ The Court, Cleobury North, Bridgnorth. at 55, Broad Street, Ludlow.
1136	1884, Apr. 21	DOLL, CHARLES FITZROY . . .	74, Gower Street, Bedford Square, W.C.
2217	1891, Nov. 4	DOLLAR, PETER, A.R.I.B.A. . .	44, Great Marlborough Street, W.
1415	{ A. '87, Dec. 19 } F. '91, Dec. 7	*DONE, JOHN JAMES . . .	45, Lincoln's Inn Fields, W.C.
1250	1885, Feb. 9	DONNE, HENRY . . .	Leek Wootten, Warwick.
2218	1891, Nov. 4	DORNING, ARTHUR HARRY . .	41, John Dalton Street, Manchester.
1582	1889, Feb. 25	DORNING, ELIAS . . .	41, John Dalton Street, Manchester.
163	{ A. '69, Jan. 25 } F. '82, Nov. 31	DOWDEN, HENRY JOSEPH . .	314, Regent Street, Portland Place, W.
498	1878, Jan. 14	DOWNING, FREDERICK . . .	7A, Whitehall Yard, S.W
1997	1891, Mar. 14	DOWNING, HY. P. B., A.R.I.B.A.	175, Strand, W.C.
2219	1891, Nov. 4	DOWSETT, CHARLES FINCH . .	3, Lincoln's Inn Fields, W.C.
1841	1890, Nov. 22	DRANSFIELD, HENRY BROOK . .	12, 13, & 14, Estate Buildings, Huddersfield.
817	{ A. '82, May 22 } F. '84, May 19	DRAPER, ARTHUR THOMAS . .	Friar Lane, Leicester.
1348	1887, Jan. 10	DRAY, ALFRED . . .	Town Hall Chambers, Hastings, Sussex.
301	1873, Feb. 10	DREW, HENRY . . .	15, Queen Street, Exeter.
		(Member of Council)	
1836	{ A. '86, Dec. 6 } F. '88, Nov. 12	*DREW, HENRY ALBAN . . .	15, Queen Street, Exeter.
1095	{ A. '84, Feb. 11 } F. '89, Jan. 14	DREW, JOHN GOULD . . .	15, Queen Street, Exeter.
2220	1891, Nov. 4	DREWEATT, THOMAS . . .	Newbury, Berkshire.
918	1888, April 2	DREWITT, GEORGE . . .	94, High Street, Guildford.
419	{ A. '76, Jan. 10 } F. '78, Feb. 25	DRIVER, CHARLES WILLIAM . .	4, Whitehall, S.W.
9	1868, Jun. 15	DRIVER, ROBERT COLLIER . .	4, Whitehall, S.W.
		(Past-President)	
582	1880, Dec. 13	DRIVER, ROBERT MANNING . .	4, Whitehall, S.W.
684	1882, Jan. 16	DRURY, EDW. DRU, F.R.I.B.A.	25, Queen Anne's Gate, S.W.
1802	1890, May 29	DUKE, EDWARD . . .	Dorchester.
1803	1890, May 29	DUKE, FREKE GUY RASHLEIGH	Braehead, Kilmarnock.
2064	1891, May 28	DUKE, HENRY, JUN. . . .	Dorchester, Dorset.
1779	1890, Apr. 14	DUNCALFE, HENRY GEORGE . .	102, Darlington Street, Wolverhampton.
2221	1891, Nov. 4	DUNCAN, JAMES MORISON . .	70, Queen Street, E.C.
324	1874, Jan. 5	DUNCH, CHARLES. . . .	St. Clement's House, St. Clement's Lane, E.C.
252	1871, Jan. 30	DUNLOP, ALEXANDER MILNE . .	3, Old Palace Yard, S.W.
		(Vice-President)	
1931	1891, Jan. 17	DUNN, WILLIAM HENRY . . .	27, Bishopsgate Street Within, E.C.
1932	1891, Jan. 17	DUVALL, JOHN WILLIAM . . .	The Grange, Ware.
2222	1891, Nov. 4	DYBALL, HARVEY . . .	35, Bucklersbury, E.C.
1933	1891, Jan. 17	DYBALL, SEXTUS . . .	Gatton Lodge, Reigate, Surrey.
792	1882, Apr. 24	DYER, WILLIAM JOHN . . .	Montpelier Row, Blackheath, S.E.
35	1868, Jun. 15	DYMOND, FRANCIS WILLIAMS . .	Bampfylde House, Exeter.
1251	1885, Feb. 9	EADE, ARTHUR WILLOUGHBY } FRENCH }	Feethams, Darlington.

*Date of Election
and of Transfer.*

FELLOWS.

1	{ A. '91, Dec. 10 } { F. '92, May 30 }	*EAGLAND, WILLIAM FRANCIS	7, Upper Surrey Street, Norwich
2	1889, Feb. 25	EAGLE, WILLIAM	77, King Street, Manchester.
4	1888, Jan. 15	EAL, FRED. ERNST, F.R.I.B.A.	9, Welbeck Street, W.
5	1889, Feb. 25	EAMES, EDWARD	Stoke Manor, near Alresford, Hants.
1	1891, Jan. 17	EARDLEY, JOHN WILLIAM	Swanwick Colliery, Alfreton, Derbyshire
3	1891, Nov. 4	EARLE, THOMAS ALGERNON	90, King Street, Manchester.
4	1891, Nov. 4	EARNSHAW, JACOB	36, South King Street, Manchester.
5	1891, Nov. 4	EASTHAM, JAS. COOK, A.M.I.C.E.	The Town Hall, Manchester.
8	1891, Mar. 14	EASTON, JOHN H.	Bowl Alley Lane, Hull.
9	1891, Mar. 14	EAYES, JOHN THOS., A.M.I.C.E.	Town Hall, West Bromwich.
5	1891, Jan. 17	EDMESTON, JAMES, F.R.I.B.A.	42, Old Broad Street, E.C.
0	1884, Nov. 10	EDWARDES, CHARLES BIDWELL	The Precincts, Peterborough.
6	1891, Nov. 4	EDWARDS, ARTHUR PHIPPEN	Hutton, near Weston-super-Mare, Somerset.
9	1881, Dec. 19	EGERTON, HUBERT DECIMUS	2 and 3, Serle Street, Lincoln's Inn, W.C.
8	1883, Dec. 17	EGGAR, JAMES ALFRED	9, West Street, Farnham, Surrey.
73	1884, May 19	EGGINTON, JOHN	150, Friar Street, Reading.
50	{ A. 1879, Jan. 20 } { F. 1883, Dec. 3 }	ELIART, FREDERICK EDWARD	40, Chancery Lane, W.C.
29	1889, Nov. 25	ELDRIDGE, HERBERT	24, Cadogan Place, Belgrave Square, S.W.
27	1891, Nov. 4	ELFORD, JOHN	King Street, Poole, Dorset.
34	1888, Jan. 9	ELGAR, J. EDWARD	Crockshard, Wingham, Kent.
36	{ A. '90, Nov. 22 } { F. '92, Feb. 1 }	ELGOOD, FRANK M., A.R.I.B.A.	98, Wimpole Street, W.
01	1887, Dec. 19	ELLEN, FREDERICK CHARLES	The Auction Mart, Andover.
36	1884, Jan. 14	ELLIOTT, CHARLES	{ Wilts and Dorset Bank Chambers, George Street, Plymouth, and The Fawns, Ermington, Ivy Bridge, Devon.
28	1891, Nov. 4	ELLIS, EDWARD	Bedford Chambers, Exeter.
77	{ A. '80, Mar. 15 } { F. '87, Nov. 14 }	ELLIS, ERNEST HAROLD	132, High Street, Guildford.
65	1891, May 23	ELLIS, FREDERICK	141, Inverness Terrace, W.
30	1882, Dec. 18	ELLIS, HENRY	57, Chancery Lane, W.C.
30	{ A. '88, Dec. 10 } { F. '90, May 12 }	*ELLIS, HERBERT MOATES	Suffolk House, Laurence Pountney Hill, E.C.
65	{ A. '87, Jan. 24 } { F. '91, Feb. 16 }	*ELLIS, RALPH STAPLES	29, Fleet Street, E.C.
85	1883, Feb. 12	ELLIS, RICHARD ADAM	45, Fenchurch Street, E.C.
80	1875, Feb. 1	ELLIS, SIR JOHN WHITTAKER, BART., M.P.	{ 29, Fleet Street, E.C., and 18, Old Broad Street, E.C.
66	1891, May 23	ELLIS, WILLIAM ALFRED	176, Brompton Road, S.W.
29	1891, Nov. 4	ELLISON, MICHAEL	Duke of Norfolk's Estate Offices, Sheffield.
67	{ A. '81, Dec. 19 } { F. '90, Dec. 8 }	ELWELL, WILLIAM HENRY	{ Surveyor's Office, Great Northern Railway, King's Cross, N.
276	1872, Feb. 26	EMMANUEL, BARROW	2, Finsbury Circus, E.C.
230	1891, Nov. 4	EVANS, ARTHUR OWEN	Town Hall, Pontypridd, Glamorganshire.
257	1830, Mar. 10	EVANS, CHARLES LEE	Norton Hill, Runcorn, Cheshire.
036	1891, Jan. 17	EVANS, GEORGE	1, Adelaide Street, W.C.
000	1891, Mar. 14	EVANS, HENRY	{ Newlands Estate Office, Milford-on-Sea, near Lymington, Hants.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
898	1883, Feb. 26	EVANS, ROBERT, F.R.I.B.A.	Eldon Chambers, Wheeler Gate, Nottingham.
2281	1891, Nov. 4	EVANS, WALTER PEARSON	Caldwell, Nuneaton.
2282	1891, Nov. 4	EVANS, WILLIAM, A.M.I.C.E.	St. John Street, Beverley, Yorkshire.
388	{ A. 1874, Feb. 16 } F. 1876, Nov. 27	EVANS, WILLIAM ERNEST	School Gardens, Shrewsbury.
1416	{ A. '87, Dec. 19 } F. '91, May 25	*EVE, HERBERT TRUSTRAM	2, St. Paul's Square, Bedford.
685	1882, Jan. 16	EVE, JOHN RICHARD	St. Paul's Square, Bedford, Bedfordshire.
104	1868, Aug. 3	EVE, WILLIAM	10, Union Court, Old Broad Street, E.C.
1382	1887, Mar. 21	EVERARD, JOHN BREEDON, M.I.C.E., F.R.I.B.A.	{ 6, Millstone Lane, Leicester.
2283	1891, Nov. 4	EVERILL, FRANK	59, Foregate Street, Worcester.
1549	{ A. '89, Jan. 14 } F. '92, Nov. 14	*EVES, WILLIAM LIONEL	54, High Street, Uxbridge.
557	1880, Jan. 5	FAIR, JACOB WILSON	{ Haigh Hall, Wigan, and 8, Winckley Street Preston.
1510	1888, Dec. 10	FAIR, JAMES STRETTON	{ Estate Offices, Lytham, and 4, Winckley Street Preston.
1174	1884, May 19	FAIR, THOMAS	Estate Offices, Lytham, Lancashire.
1937	1891, Jan. 17	FAIRCLOUGH, WILLIAM	60, King Street, Manchester.
1758	1890, Mar. 10	FALCON, MICHAEL	Horstead House, Norfolk.
1062	1884, Jan. 28	FARMER, EDMUND	80, Cheapside, E.C.
2284	1891, Nov. 4	FARNAN, HENRY RICHARD	75, Coleman Street, E.C.
1759	1890, Mar. 10	FARRAR, SIDNEY H., M.I.C.E.	{ 69, Cornhill, E.C., and Port Elizabeth, Johannes- burg, South Africa.
2002	1891, Mar. 14	FARRER, JOHN	Oulton, near Leeds, Yorkshire.
2285	1891, Nov. 4	FARTHING, WALTER THOMAS	46, Strand, W.C.
1988	1891, Jan. 17	FARWELL, FREDERICK GEORGE	11, Laura Place, Bath.
1321	1886, May 17	FAWKES, ALGERNON	Sudbury, Derby.
1037	1884, Jan. 14	FAYERMAN, GEORGE METCALFE	88, The Parade, Leamington, Warwickshire.
1402	1887, Dec. 19	FENN, JOHN	{ The Hall, Ardleigh, and 146, High Street, Colchester.
1712	1890, Feb. 10	FENN, THOMAS	Downton Castle, Ludlow.
565	{ A. '80, Jan. 19 } F. '87, Mar. 21	FENNING, HERBERT SAMUEL	St. Paul's Square, Bedford, Bedfordshire.
2003	1891, Mar. 14	FENWICK, THOMAS, M.I.C.E.	Leeds, Yorkshire.
1804	1890, May 29	FERGUSON, JAMES	Livermere, Bury St. Edmund's, Suffolk.
974	1883, Nov. 12	FERRIS, GEORGE	Milton Manor, Pewsey, Wilts.
881	1882, Dec. 18	FIDDIAN, WILLIAM	Town Hall Offices, Stourbridge.
297	1873, Jan. 27	FIELD, FRANCIS HAYWARD	11, King Edward Street, Oxford.
872	1883, Jan. 29	FIELD, JAMES FREDERICK	54, Borough High Street, S.E.
1842	1890, Nov. 22	FILLINGHAM, EDWARD	Spring Bank, Hull.
2286	1891, Nov. 4	FINN, ADOLPHUS	High Street, Lydd, Kent.
2287	1891, Nov. 4	FINN, ARTHUR GEORGE	The Deanery, Chartham, Canterbury.
1843	1890, Nov. 22	FINN, GEORGE WILLIAM	Westwood Court, Faversham, Kent.
927	{ A. '83, Apr. 16 } F. '89, Jan. 14	FISHER, CHARLES BROWNING	Hill Crest, Market Harborough.

Date of Election and of Transfer.		FELLOWS.	
1	1888, Feb. 20	FISHER, EDWARD KNAPP . . .	Market Harborough, Leicestershire.
3	1884, Jan. 14	FLEETWOOD, GEORGE . . .	15, Furnival's Inn, E.C.
5	1886, Mar. 5	FLETCHER, THOMAS . . .	{ Estate Office, Dunkenhalth, Clayton-le-Moors, near Accrington.
9	{ A. '82, Feb. 13 F. '91, June 29 }	FLINT, WILLIAM HURST . . .	11, Serle Street, Lincoln's Inn Fields, W.C.
2	1880, Jan. 19	FLOCKTON, THOS. J., F.R.I.B.A.	15, St. James' Row, Sheffield.
1	1890, Feb. 24	FODEN, EDWARD ANTROBUS . . .	Teddesley Estate Office, Penkridge, Staffordshire.
5	1890, May 29	FOLEY, JOHN HOWARD . . .	Manvers Street, Trowbridge.
7	1891, May 23	FORBES, CHARLES MANSFELDT . . .	14, New Street, York.
8	1891, Nov. 4	FORD, LAWTON, ROBERT . . .	{ St. Thomas's Chambers, 24, Railway Approach, London Bridge, S.E.
8	1891, May 23	FORMBY, GEOFFREY OSWALD . . .	Exton Estate Office, Exton, Oakham, Rutland.
0	1881, Dec. 19	FORREST, ROBERT . . .	Windsor Estate Office, St. Fagans, near Cardiff.
1	1879, Dec. 8	FORSHAW, EDWARD . . .	Basford, Stoke-upon-Trent.
4	1890, Nov. 22	FORSYTH, THOMAS HILLS . . .	39, Northumberland Street, Newcastle-upon-Tyne.
9	1884, Jan. 14	FOSEBRY, WILLIAM THOMAS } EXHAM }	Warwick.
9	1872, Mar. 11	FOSTER, CHARLES ROLLS . . .	54, Pall Mall, S.W.
1	{ A. '88, Dec. 10 F. '92, Oct. 12 }	*† FOSTER, FRANK . . .	Adelphi Chambers, 7, John Street, W.C.
9	1891, Nov. 4	FOSTER, HENRY EDWIN . . .	6, Poultry, E.C.
1	1881, Dec. 19	FOSTER, JOSEPH BURGESS . . .	4, Cambridge Street, Plymouth, Devon.
7	1882, Jan. 16	FOULKES, SEPTIMUS GIFFORD . . .	Tring, Herts.
6	1882, Jan. 16	FOWLER, FREDERICK . . .	St. James' Street, Sheffield.
6	1890, May 29	FOWLER, GERARD EDMUND . . .	93, New Street, Birmingham.
7	1890, May 29	FOWLER, HENRY . . .	63, Dale Street, Manchester.
2	1882, Dec. 18	FOWLER, HENRY . . .	6, Waterloo Street, Birmingham.
0	1890, Apr. 14	FOWLER, REGINALD WILLIAM . . .	8, George Street, Sheffield.
3	1887, Dec. 19	FOWLER, RICHARD . . .	118, Colmore Row, Birmingham.
5	1889, Mar. 18	FOWLER, SYDNEY, A R.I.B.A. . .	9, Craig's Court, Charing Cross, S.W.
0	1891, Nov. 4	FOWLER, WILLIAM . . .	69, Temple Row, Birmingham.
1	1891, Nov. 4	FOX, CHARLES JAMES . . .	22, George Street, Halifax.
5	1890, Nov. 22	FOX, EDWIN, JUN. . .	99, Gresham Street, E.C.
2	1891, Nov. 4	FRAMPTON, ALFRED, A.R.I.B.A. . .	62 and 63, Basinghall Street, E.C.
3	1891, Nov. 4	FRANCE, ARTHUR ALDERSON . . .	99, Swan Arcade, Bradford.
4	1891, Nov. 4	FRANCE, CHARLES . . .	99, Swan Arcade, Bradford.
5	1889, Jan. 14	FRANCIS, GEORGE FUTVOYE . . .	Eaton Chambers, Buckingham Palace Road, S.W.
6	1890, Mar. 10	FRANCIS, LEON ALBERT . . .	6, John Street, Adelphi, W.C.
8	1890, May 29	FRANKLIN, ARTHUR THOMAS . . .	25, Ludgate Hill, E.C.
1	1883, April 16	FRANKLIN, THOMAS . . .	Ascot, near Wallingford.
9	1890, May 29	FRANKLIN, THOMAS FREDERICK . . .	25, Ludgate Hill, E.C.
14	{ A. '84, Feb. 25 F. '90, Apr. 14 }	FREEMAN, SYDNEY . . .	28, Queen Street, E.C.
17	1884, Dec. 8	FREUER, WILLIAM . . .	West Rudham, Swaffham, Norfolk.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
2069	1891, May 23	FROST, FREDERIC CORNISH . .	Teignmouth, Devon.
369	1875, Jan. 18	FRY, GEORGE FREDERICK . .	46, London Road, Dover, Kent.
734	1882, Feb. 18	FRYER, GEORGE	{ 15, Parliament Street, Hull, and Rose Villa Bishop Wilton, near York.
1063	1884, Jan. 28	FULLER, ERNEST	98, Wimpole Street, W.
1040	1884, Jan. 14	FULLER, HARRY	83, High Street, Croydon.
947	{ A. '83, May 21 } { F. '88, Nov. 26 }	FULLER, HERBERT HENRY . .	15, Serjeants' Inn, Fleet Street, E.C.
1124	{ A. '84, Mar. 10 } { F. '91, Apr. 20 }	FULLER, THOMAS ALFRED . .	The College, All Saints', Derby.
775	1882, Mar. 13	FURBER, HERBERT	2, Warwick Court, Gray's Inn, W.C.
1064	1884, Jan. 28	FURBER, WILLIAM	2, Warwick Court, Gray's Inn, W.C.
417	1876, Jan. 10	GAIRDNER, EDWARD JAMES . .	27, Southampton Buildings, W.C.
2245	1891, Nov. 4	GALE, ARTHUR JOHN, F.R.I.B.A.	4, Serjeants' Inn, Fleet Street, E.C.
2004	1891, Mar. 14	GALE, ERNEST SEWELL . . .	Falcon Court, 32, Fleet Street, E.C.
761	1882, Feb. 27	GALE, JOSEPH JOHN	Market Place, Wallingford, Berks.
819	1882, Nov. 13	GALPIN, CHARLES ALEXANDER .	36, Pembroke Street, Oxford.
55	1868, Jul. 6	GALSWORTHY, FREDERICK THOMAS (Member of Council)	11, Waterloo Place, S.W.
1713	1890, Feb. 10	GAMBLE, SIDNEY GOMPERTZ, } A.M.I.C.E. }	Metropolitan Fire Brigade, Southwark Bridge Road, S.E.
1606	1889, Mar. 18	GANDY, JAMES	22, Essex Street, Strand, W.C.
735	1882, Feb. 13	GARDINER, EDWARD JAMES . .	110, Great Russell Street, W.C.
127	1868, Sep. 28	GARDINER, WILLIAM JAMES . .	110, Great Russell Street, W.C.
98	{ A. 1868, Jul. 27 } { F. 1883, Nov. 12 }	GARRARD, ARTHUR (Member of Council)	66, Cannon Street, E.C.
2246	1891, Nov. 4	GARRARD, NORTON BURROUGHS .	Cranley Hall, Eye, Suffolk.
2247	1891, Nov. 4	GARROOD, THOMAS WILLIAM M.	172, Fenchurch Street, E.C.
1810	1890, May 29	GATE, ALFRED JOSEPH	20, Mecklenburg Square, W.C.
688	1882, Jan. 16	GATER, CALEB WILLIAM . . .	Salisbury, Wilts.
1203	{ A. '84, May 26 } { F. '89, Jan. 14 }	GAYFORD, HENRY JOHN . . .	Raynham Estate Office, East Raynham, Norfolk.
1643	1889, Dec. 9	GAZE, THOMAS WILLIAM . . .	Frenze Hall, Diss, Norfolk.
2248	1891, Nov. 4	GELDER, WM. ALFRED, F.R.I.B.A.	12, Bowl Alley Lane, Hull.
935	1883, April 30	GERMAN, GEORGE	{ Packington House, Ashby-de-la-Zouch, Leices- tershire
2070	1891, May 23	GERMAN, HARRY	Loughborough, and Ashby-de-la-Zouch.
887	1883, Feb. 12	GERMAN, JOHN	Ashby-de-la-Zouch, Leicestershire.
1161	{ A. '84, May 5 } { F. '87, Nov. 14 }	*GIBB, WILLIAM PASHLEY . .	Estate Office, Stafford Street, Dublin.
1294	{ A. '86, Jan. 11 } { F. '90, Nov. 10 }	GIBBON, WM. JACOMB, A.R.I.B.A.	36, Great James Street, Bedford Row, W.C.
1620	1889, Apr. 29	GIBSON, DENSTON	98, New Street, Birmingham.
1668	{ A. '89, Dec. 9 } { F. '93, May 8 }	*GIDDY, OSMAN HORTON . . .	121, Pall Mall, S.W.
381	1875, Feb. 1	GILBERT, WILLIAM HENRY SAINSBURY }	62, Old Broad Street, E.C.

p. o.	<i>Date of Election and of Transfer.</i>	FELLOWS.	
21	1889, Apr. 29	GILLART, DAVID	Towyn, Merionethshire.
66	1888, Mar. 5	GILPIN-BROWN, WILLIAM DUNDAS	Blankney Estate Office, Metherringham, Lincoln.
18	1869, Dec. 6	GIRDWOOD, JAMES	18, Adam Street, Adelphi, W.C.
49	1891, Nov. 4	GIVEN, MAXWELL.	Town Surveyor's Office, Coleraine, Co. Derry.
20	1876, Jan. 24	GLASIER, GEORGE HENRY BROUGHAM	} 6, Spring Gardens, S.W.
02	1890, Jan. 27	GLEED, RICHARD CUMMINGS	
66	1889, Jan. 28	GODDARD, JOSEPH, F.R.I.B.A.	{ 6, Market Street, Leicester, and Carlton Cham- bers, 12, Regent Street, S.W.
86	{ A. '85, Dec. 7 F. '86, May 17 }	*GODFREY, ROBERT, A.M.I.C.E.	
50	1891, Nov. 4	GODSELL, GEORGE HERBERT	Palace Chambers, King Street, Hereford.
05	1891, Mar. 14	GOLDSMITH, WILLIAM	40, Old Broad Street, E.C.
51	1891, Nov. 4	GOODACRE, JOHN, F.R.I.B.A.	5, Friar Lane, Leicester.
11	1888, Dec. 10	GOODACRE, ROBT. J., F.R.I.B.A.	Friar Lane, Leicester.
89	1883, Dec. 17	GOODCHILD, JOSIAH	59, Tollington Park, N.
46	1889, Jan. 14	GOODWYN, LEONARD WILLIAM	{ 8, Granville Chambers, Granville Place, Portman Square, W.
06	1891, Mar. 14	GORDON, CHAS. G., A.M.I.C.E.	
314	{ A. '73, May 19 F. '78, Mar. 11 }	GORE, SPENCER W.	16, Whitehall Place, S.W.
89	1891, Jan. 17	GOTT, CHARLES. M.I.C.E.	8, Charles Street, Bradford.
52	1891, Nov. 4	GOTT, CHARLES HENRY.	8, Charles Street, Bradford.
67	1889, Jan. 28	GOTT, FRANK	3, East Parade, Leeds.
48	{ A. '77, Feb. 12 F. '82, Dec. 18 }	GOTTO, FREDERICK EDWARD	Stony Stratford, Bucks.
78	1880, Apr. 12	GOULDING, WILLIAM PURDHAM.	41, Moorgate Street, E.C.
71	1891, May 23	GOULDSMITH, GEORGE WALLER.	2, Pont Street, Belgrave Square, S.W.
72	1891, May 23	GOVER, ARTHUR S., F.R.I.B.A.	4, Queen Street Place, E.C.
53	1891, Nov. 4	GOVER, JOHN RICHARD	5, Guildhall Chambers, Basinghall Street, E.C.
46	1890, Nov. 22	GRADWELL, ARTHUR RICHARD	10, Richmond Terrace, Blackburn.
54	1891, Nov. 4	GRAHAM, ARTHUR GORE	Victoria Chambers, Newport, Monmouthshire.
70	1875, Jan. 18	GRAHAM, WILLIAM	Victoria Chambers, Newport, Monmouthshire.
18	1884, Dec. 8	GRAIN, ARTHUR TRESS	2, St. Andrew's Hill, Cambridge.
79	{ A. '83, Nov. 12 F. '91, Feb. 16 }	GRANT, HARRY GRÈME	Chilbolton, Hants.
327	{ A. '82, Dec. 4 F. '85, Jan. 12 }	GRANT, JAMES	Penrallt, Llanidloes, Montgomeryshire.
60	1885, Mar. 9	GRAVES, WALTER, F.R.I.B.A.	Winchester House, Old Broad Street, E.C.
55	1891, Nov. 4	GREAVES, JOHN OLDROYD	59, Westgate, Wakefield.
59	1891, Nov. 4	GREEN, ALFRED WILLIAM	Clare Castle, County Clare, Ireland.
90	1882, Jan. 16	GREEN, JAMES	22, Chancery Lane, W.C.
56	1891, Nov. 4	GREEN, ROBERT COUPER	26, Fawcett Street, Sunderland,
88	1884, May 26	GREEN, SAMUEL	28 and 29, St. Swithin's Lane, E.C.
337	{ A. '86, Dec. 6 F. '90, Feb. 10 }	GREEN, THOMAS JOSEPH	28 and 29, St. Swithin's Lane, E.C.
347	1890, Nov. 22	GREEN, THOMAS THORNTON	12 & 13, Poultry, E.C.
257	1891, Nov. 4	GREGSON, WILLIAM	Baldersby, S.O., Yorks.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1087	1884, Feb. 11	GRELLIER, HARLEY MAIR . . .	6, Queen Anne's Gate, S.W.
371	1875, Jan. 18	GREY, CHARLES GREY . . .	2, Northbrook Road, Leeson Park, Dublin.
2078	1891, May 23	GRIFFIN, HAROLD . . .	54, High Street, Battersea, S.W.
1714	1890, Feb. 10	GRIFFITHS, EDWARD, JUN. . .	Knockin, near Oswestry.
2050	{ A. '91, Mar. 14 } { F. '91, Dec. 7 }	*GRIFFITHS, HAROLD, A.M.I.C.E.	{ The School Board for London, Victoria Em bankment, W.C.
1736	1890, Feb. 24	GRIFFITHS, WILLIAM . . .	Gelley. Wernen Estate, Llanelly, Carmarthenshire
2258	1891, Nov. 4	GRIGGS, ROBERT, A.R.I.B.A. . .	11, Gray's Inn Square, W.C.
1611	1889, Apr. 1	GRIMLEY, EDWIN FEARN . . .	40, Temple Street, Birmingham.
1612	1889, Apr. 1	GRIMLEY, THOMAS . . .	40, Temple Street, Birmingham.
2142	{ A. '91, May 23 } { F. '92, May 30 }	*GROGAN, HEDWORTH HERBERT.	125, Piccadilly, W.
2486	1892, Feb. 26	GROGAN, HENRY THOMAS . . .	101, Park Street, Grosvenor Square, W.
1811	1890, May 29	GROSE, VINCENT J., F.R.I.B.A.	13, Railway Approach, S.E.
1727	{ A. '90, Feb. 10 } { F. '92, Jan. 26 }	*GROVER, ARTHUR . . .	38, Woodberry Down, N.
2260	1891, Nov. 4	GRUNING, EDWARD A., F.R.I.B.A.	25, Gresham House, Old Broad Street, E.C.
1737	1890, Feb. 24	GUDGEON, GEORGE EDWARD . .	Estate Agency Offices, Winchester, Hants.
2261	1891, Nov. 4	GURNEY, JAMES . . .	Chalfont St. Giles, Slough, Bucks.
433	1876, Mar. 20	GWYTHER, WM. W., F.R.I.B.A.	102, Temple Chambers, Temple Avenue, E.C.
2262	1891, Nov. 4	HABGOOD, HENRY CHARLES . .	Witney, Oxfordshire.
1586	1889, Feb. 25	HACKFORD, GEORGE . . .	6, Queen Anne's Gate, S.W.
347	1874, Mar. 16	HADDOCK, ROLAND . . .	45, High Street, Croydon, Surrey.
2263	1891, Nov. 4	HALE, RAYMOND HENRY . . .	6, Great Queen Street, S.W.
2264	1891, Nov. 4	HALL, CHARLES EDWARD . . .	The Albany, Old Hall Street, Liverpool.
619	1881, May 2	HALL, ERNEST . . .	166, Queen Street, Portsea, Hants.
517	1878, Dec. 9	HALL, JOHN GEORGE, A.R.I.B.A.	1, Caithness Road, West Kensington, W.
923	1883, April 16	HALL, WALTER . . .	38, Chancery Lane, W.C.
1295	{ A. '86, Jan. 11 } { F. '91, June 29 }	*HALL, WILLIAM TIMOTHY . .	Talbot Chambers, Shrewsbury.
1189	1884, May 26	HALLETT, WILLIAM BROWN. . .	{ 11, Queen Victoria Street, E.C., and 278, Hollo- way Road, N.
691	1882, Jan. 16	HAMILTON, HENRY . . .	64 & 65, Coleman Street, E.C.
1738	1890, Feb. 24	HAMILTON, JOHN. . .	23 & 24, Wormwood Street, E.C.
2265	1891, Nov. 4	HAMPTON, WILLIE THOMAS . .	Hotel Street, Coalville, Leicester.
1481	1888, Apr. 30	HANCOCK, WILLIAM ST. JOHN HÜ, F.R.I.B.A.	{ Hong Kong, China, and 14, Clifford's Inn, E.C.
1637	1890, Jan. 6	HANKINSON, THOMAS JAMES . .	Richmond Chambers, Bournemouth, Hants.
1240	1885, Jan. 12	HANNEN, REGINALD ST. JOHN .	The Cottage, Fordingbridge, Salisbury.
892	{ A. '83, Feb. 12 } { F. '89, Jan. 14 }	*†HANSELL, REGINALD GODDARD	Lonsdale Chambers, 27, Chancery Lane, W.C.
1245	1885, Jan. 26	HANSON, AMOS . . .	35, Church Street, St. Helen's, Lancashire.
2266	1891, Nov. 4	HANSON, JOHN H., A.M.I.C.E.	20, Ramsden Street, Huddersfield.
642	1881, Dec. 19	HARDCASTLE, FREDERICK HENRY APPLETON, A.R.I.B.A. . . .	{ 34, Southampton Street, Strand, W.C.
481	{ A. '77, Mar. 26 } { F. '82, Dec. 18 }	HARDING, EDWARD ERNEST . .	80, St. Paul's Churchyard, E.C.

Date of Election
and of Transfer.

FELLOWS.

	1881, Dec. 19	HARDING, SIDNEY LONGHURST .	St. Albans, Herts.
	1888, Apr. 30	HARDY, RICHARD THOMAS ASH	Estate Offices, Marchington, Staffordshire.
	1889, Apr. 1	HARGRAVES, STEPHEN . . .	20, St. Ann's Square, Manchester.
	1891, May 23	HARLAND, MARCHANT JAMES .	Strafford Road, High Barnet.
	1891, Mar. 14	HARLE, JOHN JOSEPH . . .	Tortworth Estate Office, Falfield, Gloucester.
	1891, Nov. 4	HARPUR, WILLIAM, M.I.C.E. .	Town Hall, Cardiff.
	{ A. 1878, Jan. 28 } { F. 1883, Nov. 12 }	HARRINGTON, GEORGE FREDERICK	16, Abchurch Lane, E.C.
	1883, Dec. 17	HARRIS, JAMES	Winchester, Hants.
	1890, Feb. 24	HARRISON, JAMES THOMAS . .	Town Hall Offices, Buckingham.
	1891, May 23	HARRISON, RICHD. C., F.R.I.B.A.	103, Cannon Street, E.C.
	1890, May 29	HARSTON, ARTHUR	15, Leadenhall Street, E.C.
	1871, Feb. 27	HART, WILLIAM FREDERICK .	Lambeth Waterworks, Brixton Hill, S.W.
	1888, Dec. 10	HARVEY, FREDERICK HENRY .	Clapham Junction House, S.W.
	{ A. '78, Dec. 9 } { F. '90, Jan. 6 }	HARVEY, JOHN JAMES SAYER .	80, Castle Street, Canterbury, Kent.
	{ A. '89, Jan. 14 } { F. '91, Oct. 15 }	HASKINS, WILLIAM ALBION . .	7A, Whitehall Yard, S.W.
	1873, May 19	HASLAM, DRYLAND	17, Friar Street, Reading.
	{ A. '83, May 25 } { F. '89, Apr. 1 }	*HASLUCK, LANCELOT GERALD .	Green Hill Park, New Barnet, Herts.
	1889, Mar. 18	HAUGHTON, WILLIAM HOGHTON .	Highlands, Great Barford, St. Neots.
	1891, Nov. 4	HAWKER, HARRY EDWIN . . .	St. Peter's Chambers, Bournemouth.
	1888, Mar. 19	HAWKINS, CHARLES	Downham Market, Norfolk.
	1889, Mar. 18	HAWLEY, HENRY MICHAEL . .	Tumby Lawn, Boston.
	1891, Nov. 4	HAYNES, HENRY	Estate Office, Clifton, Nottingham.
	1888, Dec. 10	HAYTON, JOSEPH WILLIAM . .	Devonshire Chambers, Carlisle.
	1891, May 23	HAYTON, PATTINSON	Devonshire Chambers, Carlisle.
	1881, Dec. 19	HAYWARD, HENRY	Dover, Kent.
	1885, Feb. 23	HAYWOOD, HENRY	9, West Street, Hereford.
	1868, Jul. 6	HAYWOOD, WILLIAM, LIEUT.- COL., M.I.C.E., F.R.I.B.A. . }	Guildhall, E.C.
	1885, Feb. 23	HAYWOOD, WILLIAM MATTHEWS .	9, West Street, Hereford.
	{ A. '89, Dec. 9 } { F. '91, May 25 }	*HEAD, JOHN GEORGE	7, Upper Baker Street, N.W.
	1882, Dec. 1	HEARD, HERBERT	Shepton Mallet, Somerset.
	1891, Nov. 4	HEATH, HENRY	34, Finsbury Pavement, E.C.
	1882, Jan. 16	HEATON, GEORGE HERBERT . .	Endon, near Stoke-upon-Trent, Staffordshire.
	1881, Apr. 4	HEBBLETHWAITE, LOUIS . . .	Conservancy Buildings and Anlaby Road, Hull.
	1890, Nov. 22	HEBDITCH, WILLIAM BENJAMIN	Stratton, South Petherton, Ilminster, Somerset.
	1886, Dec. 6	HEDLEY, JOHN HUNT	55, John Street, Sunderland.
	1884, Feb. 11	HEDLEY, ROBERT WILKIN . . .	31A, Colmore Row, Birmingham.
	1871, Jan. 15	HEDLEY, THOMAS FENWICK . .	Sunderland.
	1890, Feb. 24	HEELIS, WILLIAM	26, Budge Row, E.C.
	{ A. '82, Nov. 13 } { F. '90, Jan. 6 }	HENDERSON, HENRY ARTHUR .	34, Finsbury Pavement, E.C.
	1886, Dec. 6	HENDRIKS, HENRY	43, Waterloo Street, Birmingham.
	1887, Mar. 7	HEPPER, JOHN	East Parade, Leeds.

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1219	1884, Dec. 8	HERBERT, ALLAN	The Market Place, Andover, Hants.
991	1888, Dec. 17	HERON, WILLIAM CHARLES . .	Uxbridge, Middlesex.
1575	1889, Feb. 11	HERRING, WILLIAM ARTHUR } WARWICK	8, Great Portland Street, W.
1435	1888, Jan. 9	HESKETT, WILLIAM JAMES . .	24, King Street, Penrith, Cumberland.
1715	1890, Feb. 10	HICKMAN, THOMAS	Leaton, near Shrewsbury.
2077	1891, May 23	HICKSON, STEPHEN WESTBY .	{ Telephone Buildings, 31, Queen Victoria Street, E.C.
1065	1884, Jan. 28	HIGGINS, FREDERIC	Alford, Lincolnshire.
1674	{ A. '89, Dec. 9 } { F. '91, May . .	*HIGGINS, GEORGE	12, Finchley Road, St. John's Wood, N.W.
2271	1891, Nov. 4	HILL, SAMUEL, A.R.I.B.A. . .	16, Russell Square, W.C.
2078	1891, May 23	HILL, THOMAS NELSON . . .	140, Bath Street, Glasgow.
1311	1886, Mar. 22	HILL, WILLIAM BURROUGH . .	62, Above Bar, Southampton, Hants.
220	1870, Jan. 10	HILLIARD, GEORGE BRIDGE . .	Chelmsford, Essex.
1303	{ A. '86, Jan. 25 } { F. '90, Mar. 24 }	HILLIARD, GEORGE EDWARD . .	Chelmsford, Essex.
1888	1887, Apr. 18	HILTON, JOHN	{ 30, Budge Row, E.C., and 17, Montpelier Row, Blackheath.
2079	1891, May 23	HINCKS, HENRY THORP . . .	Glen Parva Manor, Blaby, Leicester.
2272	1891, Nov. 4	HINDLE, JOHN	24, Bank Street, Bradford.
2273	1891, Nov. 4	HINDS, HENRY	57, Queen Street, Ramsgate.
671	{ A. 1881, Dec. 19 } { F. 1883, Nov. 12 }	HINE, GEORGE ERNEST . . .	5, Waterloo Place, S.W.
900	1883, Feb. 26	HINE, GEORGE THOMAS . . .	{ 35, Parliament Street, S.W., and Victoria Street, Nottingham.
70	1868, Jul. 13	HIPPISLEY, EDWIN	12, Chamberlain Street, Wells, Somerset.
1782	1890, Apr. 14	HIPPISLEY, EDWIN MAGGS . .	12, Chamberlain Street, Wells, Somerset.
1783	1890, Apr. 14	HIPPISLEY, WILLIAM JOHN . .	12, Chamberlain Street, Wells, Somerset.
815	1882, May 22	HITCHCOX, WILLIAM	Victoria Chambers, Newport, Monmouthshire.
1769	1890, Mar. 24	HOBBS, JOHN	Guinea Hall, Sellinge, near Hythe, Kent.
518	1878, Dec. 9	HOBGEN, FRANCIS NEALE . . .	East Street, Chichester.
2080	1891, May 23	HOBGEN, THOMAS CECIL . . .	East Street, Chichester.
888	1883, Feb. 12	HOBSON, FREDERICK WILLIAM .	79, Coleman Street, E.C.
2008	1891, Mar. 14	HOBSON, HARRY	Swinefleet, near Goole, Yorkshire.
1552	{ A. '89, Jan. 14 } { F. '89, Nov. 25 }	*HODGE, LEONARD PERCIVAL } A.M.I.C.E.	{ Office of Public Works, Kingston, Jamaica, and Nutfield, Crescent Road, Norbiton, Surrey.
2274	1891, Nov. 4	HODGSON, ARTHUR MARRIOTT .	4, Albion Place, Southampton.
519	1878, Dec. 9	HODSON, GEORGE, M.I.C.E. . .	{ Loughborough, and Abbey Buildings, Princes Street, Westminster. S.W.
2275	1891, Nov. 4	HODSON, WILLIAM	7, Finsbury Square, E.C.
2081	1891, May 23	HOGGARTH, ARTHUR	Kendal, Westmoreland.
2082	1891, May 23	HOGGARTH, EDWIN	69, Highgate, Kendal, Westmoreland.
793	1882, Apr. 24	HOLBECKE, ROBERT NEVILLE .	21, Bennett's Hill, Birmingham.
2083	1891, May 23	HOLCOMBE, JAMES JOHN . . .	The Fawns, Ermington, Devon.
1813	1890, May 29	HOLCOMBE, WALTER	30, Orchard Street, Portman Square, W.
357	1874, Nov. 16	HOLDEN, JOHN, F.R.I.B.A. . .	64, Cross Street, Manchester.

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276	1891, Nov. 4		HOLDSWORTH, FREDERICK HENRY	91, Billiter Buildings, Billiter Street, E.C.
155	1884, May 5		HOLIDAY, FREDERICK DEAN	Bicester, Oxfordshire.
892	{ A. '83, Feb. 12 } { F. '89, Nov. 11 }		HOLLAND, THOMAS JAMES, JUN.	3, Little George Street, S.W.
277	1891, Nov. 4		HOLLINGSWORTH, ARTHUR AUGUSTUS	} 27, Leadenhall Street, E.C.
278	1891, Nov. 4		HOLLOWAY, HARRY HOWNAM	
770	1890, Mar. 24		HOLLOWAY, THOMAS	Chippenham, Wilts.
279	1891, Nov. 4		HOLMAN, GEORGE EDWARD	109, Bow Road, E.
272	1885, Nov. 9		HOLME, JOHN	Owlet Ash, Milnthorpe, Westmoreland.
693	1882, Jan. 16		HOLMES, JAMES	23, Delamere Street, Ashton-under-Lyne.
1009	1891, Mar. 14		HOLMES, MONTAGUE	33, Paternoster Row, E.C.
280	1891, Nov. 4		HOLT, GEORGE HY., A.M.I.C.E.	10, Richmond Terrace, Blackburn,
281	1891, Nov. 4		HOMAN, FRANKLIN GEORGE	147, Eastgate, Rochester, Kent.
741	1890, Feb. 24		HONEYBALL, FRED THOMAS	Deal, Kent.
284	1891, May 23		HOOD, HON. VICTOR ALBERT NELSON	} 12, Wimpole Street, W.
1097	{ A. '84, Feb. 11 } { F. '89, Jan. 28 }		HOPE, WILLIAM ELLIOTT	
1644	1889, Dec. 9		HOPKINS, ALFRED JAMES	27, Mortimer Street, Cavendish Square, W.
2282	1891, Nov. 4		HOPKINSON, ALFRED, A.M.I.C.E.	Castle Chambers, Bury, Lancashire.
2010	1891, Mar. 14		HORNE, EDMUND	High Street, Hounslow, Middlesex.
794	1882, Apr. 24		*HORNE, WILLIAM EDGAR	{ 85, Gresham Street, E.C., and 17, Great George Street, S.W.
1890	1887, May 9		HORNOR, CHARLES JARED	
1891	1887, May 9		HORNOR, FRANCIS	Queen Street, Norwich.
2011	1891, Mar. 14		HORNSBY, ROBERT	Estate Office, Hovingham, York.
1275	1885, Dec. 7		HORSEY, FREDERICK	11, Billiter Square, E.C.
1826	1890, May 29		HORSEY, FREDERICK JOHN TERRY	11, Billiter Square, E.C.
174	1869, Feb. 22		HORSFALL, RICHARD (Member of Council)	{ Post Office Buildings, George Street, Halifax, Yorkshire.
1761	1891, Mar. 10		HORSFALL, RICHARD EDGAR	
2283	1891, Nov. 4		HORSFIELD, J. NIXON	2, Grove Road, Kingston-on-Thames.
2284	1891, Nov. 4		HOUGHTON, FREDERICK	3, Union Court, Old Broad Street, E.C.
2285	1891, Nov. 4		HOUGHTON, JOHN POUNDS	26, The Avenue, Kew, and Richmond.
1940	1891, Jan. 17		HOUGHTON, WILLIAM	58, Old Broad Street, E.C.
1587	1889, Feb. 25		HOVENDEN, HENRY EDWARD	30, Bishopsgate Street Without, E.C.
2286	1891, Nov. 4		HOWARD, ALFRED	6, Martin's Lane, Cannon Street, E.C.
2085	1891, May 23		HOWARD, HARRY	17, Clifton Road, Littlehampton.
171	{ A. '69, Feb. 8 } { F. '83, Mar. 12 }		HUBBERSTY, HENRY ALFRED	Buxton, Derbyshire.
936	1883, Apr. 30		HUDSON, ARTHUR BYRNE	17, Godliman Street, E.C.
2086	1891, May 23		HUDSON, EDW. WM., A.R.I.B.A.	76, Fellows Road, N.W., and Hove, Sussex.
1118	1884, Mar. 10		HUDSON, JAMES	Penrith, Cumberland.
1609	1889, Mar. 18		HUGMAN, CHARLES EADY	9, Craig's Court, Charing Cross, S.W.
776	1882, Mar. 13		HULL, CHARLES	Euston Station, London, N.W.

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175	1869, Feb. 22	HUMPHREYS, CHARLES . . .	56, Leadenhall Street, E.C.
627	1881, Dec. 5	HUMPHREYS, HENRY . . .	Woodhouse, Loughborough, Leicestershire.
2087	1891, May 23	HUMPHREYS, JOHN HENRY . . .	Woodhouse, Loughborough, Leicestershire.
2088	1891, May 23	HUNT, FREDERICK COPE . . .	9, Cowley Street, Westminster, S.W.
2287	1891, Nov. 4	HUNT, FRED WM. H., F.R.I.B.A.	30, York Place, Portman Square, W.
353	1874, May 11	HUNT, HENRY ARTHUR . . .	45, Parliament Street, S.W.
181	1869, Mar. 8	HUNT, JOSIAH	6, Queen Anne's Gate, S.W.
2089	1891, May 23	HUNT, THOMAS	Baldock Street, Ware, Herts.
1941	1891, Jan. 17	HUNTER, CECIL	51, Denbigh Street, S.W.
2288	1891, Nov. 4	HURRELL, JOHN WEYMOUTH . . .	25, Brazennose Street, Manchester.
1016	{ A. '83, Dec. 19 } { F. '91, Jan. 5 }	HUSKINSON, THOMAS WILLIAM . . .	Epperstone Manor, Nottingham.
326	1874, Jan. 19	HUSKINSON, WILLIAM LAMBE . . .	The Manor House, Epperstone, Nottingham.
1220	1884, Dec. 8	HUSSEY, FRANK TOOZE . . .	{ The Grove, Cheddton Fitzpaine, Taunton Somerset.
1182	{ A. '84, May 19 } { F. '89 Dec. 9 }	HUSSEY, ROBERT	Brereton Rugeley, Staffordshire.
1477	1888 Apr. 16	HUXLEY, WALTER FREEMAN . . .	29, John Street, Bedford Row, W.C.
563	1880, Jan. 19	I'ANSON, EDWARD BLAKEWAY, } F.R.I.B.A.	7A, Laurence Pountney Hill, E.C.
1137	1884, Apr. 21	INGE, CHARLES HENRY . . .	Broom Leasoe, Whittington, Lichfield.
851	{ A. '82, Dec. 18 } { F. '91, Aug. 4 }	INGRAM, HENRY LAW . . .	16, Whitehall Place, S.W.
805	{ A. '73, Feb. 10 } { F. '82, Jan. 16 }	INGRAM, WALTER FIELDE . . .	83, High Street, Lewes, Sussex.
834	1882, Dec. 18	INMAN, MARSHALL NISBET . . .	7, Bedford Row, W.C.
2290	1891, Nov. 4	INMAN, WILLIAM NUTTER . . .	126, Maida Vale, W.
885	1882, Dec. 18	INNOCENT, CHAS. J., F.R.I.B.A.	Sheffield
2291	1891, Nov. 4	IRELAND, EDWIN BENJAMIN . . .	Guestwick East Dereham, Norfolk.
1942	1891, Jan. 17	JACKSON, BENJAMIN WHITEHEAD . . .	George Street, Halifax.
570	1880, Feb. 16	JACKSON, CHARLES	23, Brazennose Street, Manchester.
2292	1891, Nov. 4	JACKSON, FREDERICK WILLIAM . . .	18, Low Pavement, Nottingham.
1948	1891, Jan. 17	JACKSON, SAMUEL	33, Kirkgate, Bradford.
1404	1887, Dec. 19	JACKSON, WILLIAM TRESS . . .	117, High Street, Sittingbourne.
2293	1891, Nov. 4	JAMES, CHRISTIAN HUGH . . .	Rudchester, Wylam-on-Tyne.
1302	1886, Jan. 25	JEANS, MARK	Marlborough, Wilts.
2294	1891, Nov. 4	JENKINS, OSWALD	57, Colmore Row, Birmingham.
736	1882, Feb. 13	JENKINSON, WILLIAM WILBER- FORCE	{ 6, Moorgate Street, E.C.
2012	1891, Mar. 14	JENNINGS, WILLIAM JOSEPH . . .	4, St. Margaret's Street, Canterbury, Kent.
992	1883, Dec. 17	JEUDWINE, WILLIAM WYNNE . . .	Chesterfield.
969	{ A. '83, May 25 } { F. '85, Jan. 26 }	*JOHNSON, HENRY	35, Coleman Street, E.C.
2295	1891, Nov. 4	JOLLY, JOHN HAWKINS . . .	27, East Mount Road, York.
1463	{ A. '88, Feb. 20 } { F. '91, May 25 }	*JONAS, HARRY MARSHALL . . .	27, Market Place, Cambridge.

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195	{ A. '69, Apr. 5 F. '78, Feb. 25 }	JONAS, HENRY	4, Whitehall, S.W.
95	1888, Jul. 27	JONAS, JOHN CARTER	27, Market Hill, Cambridge.
265	1885, Apr. 20	JONES, CHARLES, M.I.C.E. . .	Normanhurst, Ealing.
777	1882, Mar. 13	JONES, CHARLES FREDERICK .	Eldon Chambers, 30, Fleet Street, E.C.
703	1890, Jan. 27	JONES, FRANCIS WILLIAM . .	Ascot, near Wallingford, Berks.
619	{ A. '89, Apr. 1 F. '91, Dec. 7 }	*JONES, FREDERICK HERBERT .	{ 25, Parliament Street, S.W., and 35, The Broad- way, Ealing, W.
964	{ A. '83, May 25 F. '86, Dec. 6 }	*JONES, HENRY ARTHUR . . .	11, Wellington Street, Strand, W.C.
849	1890, Nov. 22	JONES, ISAAC M., A.M.I.C.E. .	The Town Hall, Chester.
646	1881, Dec. 19	JONES, JAMES WILLIAM	54, Caledonian Road, Leeds.
673	{ A. '81, Dec. 19 F. '91, May 25 }	JONES, THOMAS	15, Great George Street, S.W.
1849	1887, Jan. 10	JONES, WALTER BUTLER GLOUGH	Mynydd, Ednyfed, Criccieth, North Wales.
2013	1891, Mar. 14	JONES, WILLIAM EDWARD . . .	Anglesey Estate Office, Graig, Llanfair, Anglesey.
2297	1891, Nov. 4	JOPLING, JOSEPH	Temple Chambers, Temple Avenue, E.C.
2298	1891, Nov. 4	JOSELAND, CHARLES	Bank Buildings, Kidderminster.
1467	1888, Mar. 5	JOSEPH, DELISSA, F.R.I.B.A. .	17 and 18, Basinghall Street, E.C.
1106	1884, Feb. 25	JOYCE, JOHN HALL	Blackfordby, near Burton-on-Trent.
2014	1891, Mar. 14	JOYNT, GEORGE LAWRENCE . .	Ballina, Co. Mayo, Ireland.
993	1888, Dec. 17	JURD, WILLIAM	10, Oxford Street, Southampton.
412	{ A. '75, Dec. 11 F. '87, Mar. 23 }	KAYE, JOHN EDWARD	Bretton Lodge, Wakefield, Yorkshire.
1190	1884, May 26	KEDGLEY, CHARLES	Hibernia Chambers, London Bridge, S.E.
580	1880, Nov. 8	KEIRLE, ROBERT, F.R.I.B.A. .	Suffolk House, Laurence Pountney Hill, E.C.
1904	{ A. '90, Nov. 22 F. '92, July 4 }	*KEMP-SMITH, JAMES FRED. .	Orsett, Essex.
975	1883, Nov. 12	KEMSLEY, JOSEPH WILLIAM . .	{ Corn Exchange, Romford, and Woodford Green, Essex.
1716	1890, Feb. 10	KENNEDY, JAMES.	31, Great James Street, Bedford Row, W.C.
1191	1884, May 26	KENT, GEORGE EDWARD	{ "Normanhurst," Cavendish Road, Southsea, Hants.
2299	1891, Nov. 4	KENWRICK, GEORGE	83, Colmore Row, Birmingham.
2300	1891, Nov. 4	KERL, WILLIAM JAMES	{ 49, Copers Cope Road, Beckenham, Kent, and 4, Old Jewry, E.C.
1614	1889, Apr. 1	KERSEY, ALEX. H., F.R.I.B.A. .	21, Finsbury Pavement, E.C.
1850	1890, Nov. 22	KIDWELL, JOHN	St. Margaret's Bank, Rochester, Kent.
1125	{ A. '84, Mar. 10 F. '88, Dec. 10 }	*KING, ALFRED	6, Spring Gardens, S.W.
873	1883, Jan. 29	KING, FRANK HULME	Horsham, Sussex.
1192	1884, May 26	KING, HENRY	Stourbridge, Worcestershire.
2301	1891, Nov. 4	KING, JOHN BUSEY	Albert Park, Abingdon, Berks.
1193	1884, May 26	KING, THOMAS	Pembroke House, Portsmouth, Hants.
191	1869, Mar. 22	KING, SIR WILLIAM DAVID, D.L.	Stratford Lodge, Southsea, Hants.
808	1882, May 8	KINGSTON, SAMUEL	Spalding, Lincoln.
1502	1888, Nov. 26	KIRBY, EDMUND, F.R.I.B.A. .	5, Cook Street, Liverpool.

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2902	1891, Nov. 4	KIRKBY, HERBERT	Lythe Hall, near Whitby.
2303	1891, Nov. 4	KITTOW, JOHN	West Holm, Launceston.
2487	1892, Feb. 26	KNIGHT, EDGAR WALSH. . .	29, John Street, Bedford Row, W.C.
853	{ A. '82, Dec. 18 } { F. '89, Dec. 9 }	KNOWLES, HENRY	Wotton, Gloucester.
2304	1891, Nov. 4	KOCH, JOHN GODFREY . . .	{ Revenue Survey Department, Penang, Straits Settlements, and 11, Palace Road, Upper Norwood, S.E.
2305	1891, Nov. 4	LACEY, JOHN TURK	10, Buckingham Street, Strand, W.C.
2506	1891, Nov. 4	LAING, JOHN	20, Bridge Street, Glasgow.
1553	{ A. '89, Jan. 14 } { F. '91, Dec. 7 }	*LAMBERT, GODFREY CHARLES .	27, Chancery Lane, W.C.
107	1868, Aug. 3	LAMBERT, WILLIAM	49, Finsbury Pavement, E.C.
2307	1891, Nov. 4	LAMMIE, GEORGE	138, Hope Street, Glasgow.
1398	1887, Dec. 5	LANCASTER, CHARLES HOLLAND	York Buildings, 14, Dale Street, Liverpool.
446	1876, Apr. 24	LANE, CECIL NEWTON	Whiston Hall, Shifnal, Salop.
2090	1891, May 23	LANE, ERNEST LACAN . . .	Richmond Chambers, Bournemouth.
1688	1890, Jan. 6	LANG, CHARLES AUGUSTUS . .	3, King Street, Cheapside, E.C.
762	1882, Feb. 27	LANGRIDGE, GEORGE. . . .	Public Rooms, Tunbridge Wells, Kent.
1514	1888, Dec. 10	LANGRIDGE, WILLIAM . . .	Strellit House, East Peckham, Kent.
600	1881, Jan. 24	LANSDOWN, GEORGE	5 & 7, Warwick Street, Charing Cross, S.W.
1645	1889, Dec. 9	LARMUTH, GEORGE HORATIO .	{ Wilton Chambers, 10, St. Ann's Square, Manchester.
2015	1891, Mar. 14	LATTER, HUGH ROBINSON . .	3, Market Square, Bromley, Kent.
145	1868, Nov. 9	LAURANCE, JOHN	Sexton Barns, Peterboro'.
1089	1884, Feb. 11	LAW, EDMUND, F.R.I.B.A. . .	29, Abington Street, Northampton.
1717	1890, Feb. 10	LAWFORD, WILLIAM ROBINSON .	Underhill, Oswestry.
2091	1891, May 23	LAWRANCE, WALTER	8, Delahay Street, S.W.
1944	1891, Jan. 17	LAWRENCE, ARTHUR	Great Marlow, Bucks.
2308	1891, Nov. 4	LAWRENCE, PETER	50, Frederick Street, Edinburgh.
1019	{ A. '88, Dec. 17 } { F. '89, Nov. 11 }	LAWRENCE, WILLIAM ROBERT .	57 & 58, Chancery Lane, W.C.
513	1878, Nov. 11	LEANE, GEORGE HENRY . . .	21, Queen Anne's Gate, S.W.
1461	1888, Feb. 20	LEANING, JOHN	28, John Street, Bedford Row, W.C.
60	{ A. '68, July 6 } { F. '82, May 8 }	LEE, CHARLES WILLIAMS . . .	35, Walbrook, E.C.
332	1874, Feb. 2	LEE, FREDERICK. . . .	6, Great College Street, S.W.
1610	1889, Mar. 18	LEE, PHILIP SHIRLING . . .	{ 35, Craven Street, W.C., and Oaklands, Woodford, Essex.
2092	1891, May 23	LEE, SYDNEY W., F.R.I.B.A. .	63, Lincoln's Inn Fields, W.C.
1090	1884, Feb. 11	LEE, WILLIAM	143½, High Street, Guildford, Surrey.
229	1870, Feb. 7	LEES, JOHN	Reigate, Surrey.
2016	1891, Mar. 14	LEGARD, DIGBY CHARLES . .	Tealby, Market Rasen, Lincolnshire.
836	1882, Dec. 18	LEMON, J., M.I.C.E., F.R.I.B.A.	Southampton.
675	{ A. 81, Dec. 19 } { F. '89, Mar. 18 }	LEONARD, HENRY HOLMES . .	202, Bishopsgate Street Without, E.C.
717	1882, Jan. 30	LEPPER, JOHN HARRAGE . . .	Town Hall, Bromley, Kent.

p. Date of Election o. and of Transfer.	FELLOWS.	
56 1881, May 5	LE ROSSIGNOL, FRANCIS . . .	1, Gresham Buildings, Basinghall Street. E.C.
76 1884, May 19	LETHBRIDGE, WALTER . . .	1, Leigham Villas, Plymouth.
45 1891, Jan. 17	LETTIS, THOMAS HOLLINS . . .	185, Earl's Court Road, S.W.
47 1881, Dec. 19	LIGHTFOOT, FRANCIS LOWRY . . .	3, Old Palace Yard, S.W.
01 1883, Feb. 26	LIGHTFOOT, HENRY LE BLANC	Corpus Christi College, Oxford.
46 1889, Dec. 9	LINAKER, CHARLES EDWARD . . .	Frodsham, Cheshire.
61 1887, Jan. 24	LINES, RICHARD SAMUEL . . .	103, Hammersmith Road, W.
105 1887, Dec. 19	LISTER-KAYE, CHARLES WILKIN- SON	} Osberton, Worksop, Notts.
10 1891, Nov. 4	LITTLE, WILLIAM	
77 1882, Feb. 13	LITTLE, WILLIAM CUTLACK . . .	Stag's Holt, March, Cambridgeshire.
49 { A. '83, May 21 } F. '88, Apr. 16 }	LITTLE, WILLIAM DAVIS . . .	Middleton Stoney, Bicester, Oxon.
11 1891, Nov. 4	LITTLEWOOD, LIONEL	9, Great James Street, Bedford Row, W.C.
12 1891, Nov. 4	LIVESAY, JOHN G., A.R.I.B.A. . .	Cromartie House, Ventnor, Isle of Wight.
93 1891, May 23	LLEWELLIN, DAVID MORGAN . . .	Glanwern Offices, Pontypool.
88 1892, Feb. 26	LLOYD, G. HAMILTON, A.M.I.C.E.	Rhayader, Radnorshire.
68 1881, Dec. 19	LOCK, WILLIAM HENRY	Instow, North Devon.
94 1891, May 23	LOCKYER, GILBERT EDWARD . . .	12, Southampton Street, Fitzroy Square, W.
13 1891, Nov. 4	LOTHOUSE, ROGER	62, Albert Road, Middlesbrough-on-Tees.
393 1875, Mar. 15	LOFTS, HENRY	130, Mount Street, Grosvenor Square, W.
164 { A. '84, May 5 } F. '91, June 29 }	LOFTS, HENRY FAIRLAM	130, Mount Street, W.
138 1884, Apr. 21	LOOKER, JOHN	High Street, Huntingdon.
14 1891, Nov. 4	LORING, JOHN	Hinstock, Market Drayton.
396 1887, Nov. 14	LOVEGROVE, HENRY, A.R.I.B.A.	{ 314, Old Street, E.C., and Eboracum, Herne Hill, S.E.
14* 1890, May 29	LOVEYS, ARTHUR CLAMPITT . . .	
126 { A. '84, Mar. 10 } F. '91, Feb. 16 }	LOW, ROBERT JOHN	49, Finsbury Pavement, and St. Alban's, Herts.
788 1882, Feb. 13	LOWE, CHARLES HARLOWE	Hampstead Vestry Hall, Haverstock Hill, N.W.
648 1889, Dec. 9	LUCAS, WILLIAM EDWARD	Bexley, Kent.
742 1890, Feb. 24	LUDLOW, WALTER ROBERT	18, New Street, Birmingham.
4095 1891, May 23	LYNAM, CHARLES, F.R.I.B.A. . . .	Stoke-on-Trent.
917 { A. '83, Apr. 2 } F. '89, Nov. 11 }	LYSTER, THOMAS RICE SOMER- VILLE	} Bedford Office, Thorney, Peterborough.
1743 1890, Feb. 24	LYWOOD, EDWIN	
2315 1891, Nov. 4	MACCALLUM, ALEXANDER DUNCAN	{ 63 & 64, New Broad Street, E.C., and Romford, Essex.
2321 1891, Nov. 4	MACCALLUM, JAMES BRADDON, . . M.I.C.E.	
2322 1891, Nov. 4	MCCRACKEN, WILLIAM	Crewe.
2006 1891, May 23	MACDOUGALL, ROBERT	69, Renfield Street, Glasgow.
2323 1891, Nov. 4	MCINTYRE, PETER	Gwydyr Ucha, Llanrwst, North Wales.
1615 1889, Apr. 1	MACIVER, COLIN	23, Bold Street, Warrington
2324 1891, Nov. 4	McKIE, HUGH U., M.I.C.E.	11, Victoria Street, S.W.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
2316	1891, Nov. 4	MACKINTOSH, CHARLES JOHN MACLEAN	Dunoon, Argyleshire.
1622	1889, Apr. 29	MCLEAN, DONALD	Dunrobin Estate Office, Golspie, Sutherlandshire
2317	1891, Nov. 4	MADGE, JOHN	Hops End Estate Office, Ledbury, Herefordshire
2318	1891, Nov. 4	MALETTE, WILLIAM ROBERT	35, Great St. Helen's, E.C.
161	1869, Jan. 25	MANN, CHARLES JOHN	29, Great George Street, S.W.
2319	1891, Nov. 4	MANN, JABEZ, A.M.I.C.E.	Sevenoaks, Kent.
1784	1890, Apr. 14	MANN, JAMES BAGSHAW	12, Lower Grosvenor Place, S.W.
1551	{ A. '89, Jan. 14 } { F. '93, Feb. 6 }	*MANN, ROBERT BAGSHAW	29, Great George Street, S.W.
373	1875, Jan. 18	MANN, ROBERT WILKS	12, Lower Grosvenor Place, S.W.
1946	1891, Jan. 17	MANNERS, HENRY ALFRED	Buckminster Park, near Grantham.
1616	1889, Apr. 1	MARGERESON, CHARLES FREDERIC	New Square, Chesterfield.
1362	1837, Jan. 24	MARGETTS, JOHN WILLIAM	12, High Street, Warwick.
1947	1891, Jan. 17	MARKS, HYMAN	19, Ludgate Hill, E.C.
192	1869, Mar. 22	MARR, JAMES	8, Adam Street, Adelphi, W.C.
470	{ A. '77, Jan. 15 } { F. '89, Dec. 9 }	MARRIOTT, GEORGE WHARTON	35, Brompton Crescent, S.W.
626	{ A. '81, Nov. 14 } { F. '84, Nov. 24 }	MARSHALL, LIONEL HASLER	Chippenham, Wilts.
1785	1890, Apr. 14	MARSHALL, PETER	8, George Street, Sheffield.
2097	1891, May 23	MARSON, THOMAS	Higham, Hinckley, and Leicester.
976	1888, Nov. 12	MARTIN, GEORGE DENNIS	124-127, Mansion House Chambers, E.C.
434	1876, Mar. 20	MARTIN, GILSON	Chatsworth, Chesterfield.
364	1875, Jan. 4	MARTIN, HOWARD	{ 27, Chancery Lane, W.C., and Bolney Grange, Havelock Road, Croydon.
649	1889, Dec. 9	MARTIN, ROBERT FREWEN	Mountsorrel, Loughborough.
1533	{ A. '88, Dec. 10 } { F. '92, July 4 }	*MARTIN, THOMAS	North Place, Redbourn, Herts.
704	{ A. '82, Jan. 16 } { F. '84, Jan. 28 }	MARTIN, WALTER	Wainfleet, Lincolnshire.
1589	1889, Feb. 25	MARVIN, ALBERT EDWARD	Mare Hill, Carisbrooke, Isle of Wight.
1598	1889, Mar. 4	MASON, CHARLES	Westgate, Louth, Lincolnshire.
1091	1884, Feb. 11	MASON, WILLIAM ARTHUR	31A, Colmore Row, Birmingham.
1288	{ A. '85, Dec. 7 } { F. '88, Nov. 12 }	*MASSIE, FRANK, A.M.I.C.E.	Tetley House, Kirkgate, Wakefield.
696	1882, Jan. 16	MASTERMAN, GEORGE HUGHES	35, Coleman Street, E.C.
994	1883, Dec. 17	MATHEWS, GEORGE SPENCER	15, Waterloo Street, Birmingham.
995	1883, Dec. 17	MATHEWS, JOSEPH D., F.R.I.B.A.	11, Dowgate Hill, E.C.
39	1868, Jun. 15	MATHEWS, WILLIAM (Member of Council)	15, Waterloo Street, Birmingham.
1066	1884, Jan. 28	MATTHEWS, WILLIAM	8, Delahay Street, S.W.
1399	1887, Dec. 5	MAUDE, RAYMOND WILLIAM	17, South Street, Manchester Square, W.
1356	{ A. '87, Jan. 10 } { F. '90, Jan. 6 }	*MAXWELL, FRANCIS WILLIAM	41, Corporation Street, Manchester.
1630	1889, Nov. 25	MAXWELL, JAMES, F.R.I.B.A.	41, Corporation Street, Manchester.
2320	1891, Nov. 4	MAY, THOMAS HENRY	6, Times Buildings, Bow Street, Sheffield.
937	1882, Dec. 18	MAYNARD, EDWARD	College Chambers, The Green, Richmond, Surrey.
1948	1891, Jan. 17	MEADE, T. DE COURCY, M.I.C.E.	Belmont, Muswell Hill, N.
2098	1891, May 23	MELLER, WILLIAM GALLOWAY	22, Cooper Street, Manchester.

Hip. No.	Date of Election and of Transfer.	FELLOWS.	
552	1879, Dec. 8	MELLERSH, ALFRED WILLIAM	Godalming, Surrey.
949	1891, Jan. 17	MELLOR, THOMAS HENRY	110, St. James' Street, Brighton.
379	1887, Mar. 7	MENZIES, WILLIAM	Surbiton House, Englefield Green, Surrey.
099	1891, May 23	MERRY, THOMAS	2, Guildhall Road, Northampton.
764	1882, Feb. 27	MESSINGER, WILLIAM HARRY	50, High Street, Guildford, Surrey.
223	1884, Dec. 8	*†MICHELMORE, ALFRED.	Berry Pomeroy Estate Office, Totnes, Devon.
493	1888, Nov. 12	MIDDLETON, REGINALD EMPSON	17, Victoria Street, S.W.
325	1891, Nov. 4	MIGOTTI, ALPHONZO, A.R.I.B.A.	{ 4, St. George's Mansions; Red. Lion Square, W.C.
568	1889, Jan. 28	MILES, WILLIAM FREDERICK	37, Friar Lane, Leicester.
697	1882, Jan. 16	MILLAR, CHARLES WILLIAM	14, Grafton Street, W.
2326	1891, Nov. 4	MILLAR, WILLIAM GALT	10, High Street, Reading.
2327	1891, Nov. 4	MILLARD, EDWARD	39, Old Broad Street, E.C.
1177	1881, May 10	MILLS, SAMUEL MEALING	Orford Hill, Norwich.
1305	1883, Feb. 22	MILLS, WILLIAM EDWARD	49, Hamilton Square, Birkenhead.
1421	{ A. '87, Dec. 19 } { F. '89, Nov. 11 }	*MILLWARD, ISAAC	Office of Public Works, Dublin.
2328	1891, Nov. 4	MILLYARD, JOHN WILLIAM	Estate Office, Saltmarshe Castle, Bromyard.
1950	1891, Jan. 17	MILNES, ELI	99, Swan Arcade, Bradford.
477	1877, Feb. 12	MINTER, WILLIAM	81, Bondgate, Darlington.
2463	{ A. '91, Nov. 4 } { F. '92, Oct. 12 }	*MITCHELL, GEORGE SHARMAN	Upper Adhurst, Petersfield, Hants.
2329	1891, Nov. 4	MITCHELL-WITHERS, JOHN BRIGHTMORE, F.R.I.B.A.	{ Surrey Street, Sheffield.
1282	{ A. '84, Dec. 8 } { F. '90, Nov. 10 }	*MIXER, EDWARD	44, Charing Cross, S.W.
1718	1890, Feb. 10	MONCKTON, HRY. P., F.R.I.B.A.	32, Walbrook, E.C.
2330	1891, Nov. 4	MONIER-WILLIAMS, STANLEY FAITHFULL, A.R.I.B.A.	{ 8, Laurence Pountney Hill, Cannon Street, E.C.
1951	1891, Jan. 17	MONTAGU, HENRY HAVELOCK	36, Coleman Street, E.C.
1771	1890, Mar. 24	MOODY, THOMAS	20, Cockspur Street, S.W.
1576	1889, Feb. 11	MOORE, ALFRED	144, Mile End Road, E.
2100	1891, May 23	MOORE, ALGERNON	Bridge Road, East Molesey, Surrey.
1165	{ A. '84, May 5 } { F. '88, May 14 }	*MOORE, HAROLD EDWARD	{ 41, Bedford Row, W.C., and Head Gate Court, Colchester, Essex.
2331	1891, Nov. 4	MORGAN, BENJAMIN BRAUFORD	6, Bank Street, Norwich.
1772	1890, Mar. 24	MORRIS, CHARLES	{ The Lodge, Radcliffe-on-Trent, Notts, and 27, Bridesmith Gate, Nottingham.
1443	1888, Jan. 23	MORRIS, EDWARD HENRY	Chirbury, Salop.
2101	1891, May 23	MORRIS, GEORGE FIELD	67 and 68, Cheapside, E.C.
2332	1891, Nov. 4	MORRIS, HAROLD GEORGE	67 and 68, Cheapside, E.C.
1119	1884, Mar. 10	MORRIS, HERBERT	Lewes, Sussex.
1127	{ A. '84, Mar. 10 } { F. '91, Jan. 5 }	MOSS, THOMAS WALTER	7, Gray's Inn Place, Gray's Inn, W.C.
1895	{ A. '90, Nov. 22 } { F. '93, Apr. 10 }	*MOULD, GRAHAM HARLEY	35, Great James Street, Bedford Row, W.C.
965	{ A. '83, May 25 } { F. '91, Oct. 15 }	MOYES, JOHN HELENUS	26, Trinity Street, Cambridge.

† Special Forestry Certificate.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
2145	{ A. '91, May 23 } F. '92, May 30 }	*MÜLLER, JOHN J., A.R.I.B.A.	41, Archway Road, Highgate, N.
2017	1891, Mar. 14	MUNDY, HERBERT	Manvers Street, Trowbridge, Wilts
2334	1891, Nov. 4	MUNDY, THOMAS E., A.R.I.B.A.	12, Buckingham Street, Adelphi, W.C.
2336	1891, Nov. 4	MUNRO, DANIEL	39, Hope Street, Glasgow.
765	1882, Feb. 27	MUNRO, PHILIP	{ 2, St. Stephen's Chambers, New Baldwin Street Bristol.
1590	1889, Feb. 25	MURGATROYD, JAMES	23, Strutt Street, Manchester.
1406	1887, Dec. 19	MURRAY, GILBERT	Elvaston Estate Office, Derby.
1952	1891, Jan. 17	MURRAY, WILLIAM	21, Surrey Street, W.C.
1166	{ A. '84, May 5 } F. '89, Nov. 11 }	MYLNE, WILLIAM JOHN HOME.	Sabrina, Clevedon Road, Weston-super-Mare.
809	1882, May 8	MYNORS, WALTER CHARLES } TOWERS }	Little Ingestre, Stafford.
2336	1891, Nov. 4	MYRES, JOHN JAMES, A.M.I.C.E.	15, Chapel Street, Preston.
1591	1889, Feb. 25	NAPIER, HENRY BURROUGHS .	Chippenham, Wilts.
164	{ A. '69, Jan. 25 } F. '82, Mar. 13 }	NASH, ALFRED JAMES	Farnham, Surrey.
139	1868, Nov. 2	NEALE, CHARLES JAMES	High Oakham, Mansfield, Notts.
2018	1891, Mar. 14	NEALE, GEORGE JAMES	25, Motcomb Street, Belgrave Square, S.W.
531	1879, Feb. 3	NEAME, FREDERICK	Macknade, Faversham, Kent.
795	1882, Apr. 24	NEATE, ARTHUR WEBB	Albion House, Newbury, Berks, and Hungerford
1744	1890, Feb. 24	NETHERSOLE, WILLIAM	Deal, Kent.
1314	1886, May 3	NEVE, HERBERT	Hole Park, Rolvenden, Kent.
2337	1891, Nov. 4	NEVETT, FRANCIS WALTER . .	54, Claremont Terrace, Fulwood, Preston.
1650	1889, Dec. 9	NEVETT, THOMAS	41, Fishergate, Preston, Lancashire,
2489	1892, Feb. 26	NEVITT, GEORGE	Church Street, Rugeley.
2102	1891, May 23	NEW, EDW. VORLEY, A.R.I.B.A.	62, George Street, Portman Square, W
1719	1890, Feb. 10	NEWILL, ROBERT HENRY . . .	Lydbury North, Shropshire.
1276	1885, Dec. 7	NEWMAN, ARTHUR H. F.R.I.B.A.	19A, Tooley Street, London Bridge, S.E.
856	{ A. '82, Dec. 18 } F. '89, Nov. 11 }	NEWMAN, CHARLES HENRY . .	34, Savile Row, W.
289	1872, Dec. 9	NEWMAN, FRANCIS	Ryde, Isle of Wight.
2338	1891, Nov. 4	NEWMAN, THOMAS HARRY . .	Rayne, Essex.
566	{ A. '80, Jan. 19 } F. '86, Apl. 12 }	NEWMARCH, HENRY CHARLES .	61, Lincoln's Inn Fields, W.C.
1041	1884, Jan. 14	NEWSAM, SAMUEL WATERHOUSE	3, East Parade, Leeds.
739	1882, Feb. 13	NEWSON, HARRY CARSS	57, Lincoln's Inn Fields, W.C.
1020	{ A. '83, Dec. 17 } F. '89, Nov. 11 }	NEWTON, THOMAS EDWIN . . .	45, Jewry Street, Winchester.
374	1875, Jan. 18	NICHOLS, DANIEL CUBITT . . .	3, Howard Street, Strand, W.C.
1953	1891, Jan. 17	NICHOLSON, ANSELM	55, Parliament Street, S.W.
2339	1891, Nov. 4	NICHOLSON, THOS. C., F.R.I.B.A.	24, Grainger Street West, Newcastle-upon-Tyne.
2340	1891, Nov. 4	NICHOLSON, WILLIAM ABERNETHY	29, Queen Street, E.C.
2490	1892, Feb. 26	NOCK, BENJAMIN BOWEN . . .	48, Queen Street, Wolverhampton.
401	1875, Apr. 26	NOCKOLDS, MARTIN	Saffron Walden, Essex.
1264	1885, Mar. 23	NOEL, BYRON BRUCE	East Horsley, Leatherhead.

No. Date of Election and of Transfer.	FELLOWS.	
103 1891, May 23	NORMAN, CECIL MANNERS . .	Huncote House, Leicester.
105 1876, Mar. 20	NORMAN, JAMES MAURICE . .	Uxbridge, Middlesex.
110 1890, Feb. 10	NORMAN, WILLIAM HORACE . .	34, Great George Street, S.W.
102 { A. '78, Feb. 11 F. '90, Mar. 10 }	NORRIS, WALTER HENRY . .	60, Fore Street, Hertford.
135 1868, Jul. 20	NORTH, GEORGE	Palace Chambers, 9, Bridge Street, S.W.
158 1883, May 25	*NORTH, GEORGE FREDERIC . .	Stratfield Saye, Mortimer, Berks.
139 1889, Jan. 28	NORTHCROFT, HENRY . . .	57, Charing Cross, S.W.
119 1891, Mar. 14	NORTON, THOMAS HERBERT . .	Milton Estate Office, Priestgate, Peterborough.
155 1871, Feb. 13	NOTLEY, RICHARD A, F.R.I.B.A.	80, Cornhill, E.C.
198 1882, Jan. 16	NOTLEY, ROBERT PLEDGE . .	35, Bucklersbury, E.C.
176 { A. '81, Dec. 19 F. '87, Feb. 7 }	NOTTAGE, WILLIAM GRIGGS . .	High Street, Slough, and Windsor.
163 1890, Mar. 10	NUTTALL, THOMAS	12, Market Street, Bury, Lancashire.
59 1868, Jul. 6	OAKLEY, CHRISTOPHER . . . (Member of Council)	10, Waterloo Place, S.W.
120 1891, Mar. 14	OAKLEY, EDWARD BENJAMIN . .	Nutshaling, Portarlington Road, Bournemouth.
175 { A. '91, Jan. 17 F. '92, Dec. 5 }	*OAKLEY, JOHN HUBERT . . .	10, Waterloo Place, S.W.
150 1881, Dec. 19	OBORNE, ALFRED WILLIAM . .	76, Ridge Road, Hornsey, N.
168 1888, Mar. 5	OLDROYD, LINLEY	5, Oxford Place, Leeds.
141 1891, Nov. 4	OLIPHANT, GEORGE A. J. . .	Rushford, Christchurch, Hants.
142 1891, Nov. 4	OLIVER, CHARLES EDWARD . .	Oakfield, Shotley Bridge, Co. Durham.
106 1886, Feb. 22	ORGILL, JOHN BERWICK . . .	21, Hart Street, Bloomsbury Square, W.C.
143 1891, Nov. 4	ORB, CECIL, A.R.I.B.A. . . .	2, Prince's Mansions, Victoria Street, S.W.
196 { A. '90, Nov. 22 F. '92, Nov. 14 }	*OSENTON, GEORGE, JUN. . . .	Westerham, Kent.
151 1890, Nov. 22	OSMOND, EDWARD	Oakford, Upton Pyne, Devon.
171 1890, Feb. 10	OWEN, HENRY	Dana Chambers, Shrewsbury.
144 1891, Nov. 4	OWEN, RICHARD NEWSHAM . .	Haughton, Tarporley.
198 { A. '84, Feb. 11 F. '90, Jan. 6 }	OWEN, THOMAS HENRY . . .	High Street, Haverfordwest, Pembrokeshire.
183 1869, Mar. 8	OWEN, THOMAS RULE	High Street, Haverfordwest, Pembrokeshire.
162 1889, Nov. 11	OWEN, WILLIAM SCOTT . . .	Cefngwifed, near Newtown, Montgomeryshire.
1021 1891, Mar. 14	PAGE, GEORGE FREDERICK . .	Eagle Chambers, Kingston-on-Thames.
1042 1884, Jan. 14	PAGE, ROBERT, F.R.I.B.A. . .	9, Denman Street, London Bridge, S.E.
406 { A. '75, Nov. 8 F. '81, April 4 }	PAIN, COARD SQUAREY . . .	{ 14, North John Street, Liverpool, and 5, Vic- toria Street, Westminster, S.W.
1345 1891, Nov. 4	PAIN, WILLIAM, F.R.I.B.A. . .	63, Lincoln's Inn Fields, W.C.
1346 1891, Nov. 4	PAINE, EDWARD JABEZ	11, Great James Street, Bedford Row, W.C.
1347 1891, Nov. 4	PAISLEY, JOSEPH	Waresley, Sandy, Bedfordshire.
1535 { A. '88, Dec. 10 F. '92, Oct. 12 }	*PALAMOUNTAIN, JOSEPH WM. .	Cloverley Estate Office, Whitchurch, Salop.
1815 1890, May 29	PARK, PHILIP SAMUEL	18, Winckley Street, Preston, Lancashire.
1315 1886, May 8	PARK, WILLIAM PHILIP . . .	18, Winckley Street, Preston, Lancashire.

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1388	1887, Mar. 21	PARKER, CHARLES ALFRED	{ 43, Finsbury Circus, E.C., and Woodham Mortimer Place, Maldon, Essex.
1269	1885, May 18	PARKER, JOHN, A.M.I.C.E.	Mansion House, Hereford.
2848	1891, Nov. 4	PARKER, STANLEY	427, Edgware Road, W.
567	{ A. '80, Jan. 19 } { F. '88, Jan. 9 }	PARKER, THE HON. CECIL THOMAS	{ Eccleston, Chester.
1852	1890, Nov. 22	PARKER, WILLIAM HENRY	3, Foregate Street, Worcester.
628	{ A. '81, Dec. 5 } { F. '84, Nov. 24 }	PARKIN, JOHN ROBT., A.M.I.C.E.	Idridgehay, near Derby.
1853	1890, Nov. 22	PARKIN, WILLIAM	Babworth, Retford, Notts.
865	1883, Jan. 15	PARMETER, FRANK	Middle Lees, Clitheroe, Lancashire.
2104	1891, May 23	PARNACOTT, ALFRED	{ 93, York Road, Westminster Bridge Road, S.E., and The Ferns, Laurel Grove, Penge, S.E.
2349	1891, Nov. 4	PARNIE, JAMES	27, Union Street, Glasgow.
910	1888, Mar. 12	PARR, SAMUEL	New Broad Street House, E.C.
2022	1891, Mar. 14	PARR, SAMUEL GEORGE	New Broad Street House, E.C.
1854	1890, Nov. 22	PARRY, ALBERT W., A.M.I.C.E.	17, Market Place, Reading.
1422	{ A. '87, Dec. 19 } { F. '91, Mar. 16 }	*PARRY, RICHARD, A.M.I.C.E.	21, Parliament Street, S.W.
1503	1888, Nov. 26	PARSONS, FRANK DONISTHORPE	{ Misterton, Crewkerne, Somerset, and Tisbury, Wilts.
1855	1890, Nov. 22	PARSONS, FREDERICK CECIL	9, Marine Parade, Brighton,
288	1872, Dec. 9	PARSONS, HENRY	Misterton, Crewkerne, Somerset.
1764	1890, Mar. 10	PARSONS, HENRY JOHN DONNE	Bampfylde House, Exeter.
957	{ A. '83, May 25 } { F. '88, Dec. 10 }	PARSONS, ROBERT MAURICE PETERS	{ Misterton, Crewkerne, Somerset.
1745	1890, Feb. 24	PATERSON, CHARLES	Canford Estate Office, Wimborne, Dorsetshire.
601	1881, Jan. 24	PATTISSON, JACOB LUARD, C.B.	Hillside, Marlborough, Wilts.
967	{ A. '83, May 25 } { F. '88, May 14 }	*PAULL, ALAN	6, Quality Court, Chancery Lane, W.C.
1157	1884, May 5	PAXTON, EDWARD HAYTON	West Bank, Brixton Hill, S.W.
583	1880, Dec. 13	PAYNE, ALEXANDER, F.R.I.B.A.	Norfolk House, Victoria Embankment, W.C.
719	1882, Jan. 30	PAYNE, FREDERICK	Town Hall, Bromley, Kent.
2350	1891, Nov. 4	PEARCE, JOHN GRIGG	North Curry, near Taunton.
2351	1891, Nov. 4	PEARSE, WILLIAM	Stoliford, Modbury, Devon.
2352	1891, Nov. 4	PEARSON, ALFRED, A.M.I.C.E.	Estate Offices, Dukinfield.
1270	1885, May 18	PECK, WILLIAM ROLAND	1, Cockspur Street, S.W.
2353	1891, Nov. 4	PEIRSON, GEORGE BRODRICK	Baldersby, Thirsk.
2354	1891, Nov. 4	PEIRSON, HENRY THOMAS	Brancepeth, Co. Durham.
2105	1891, May 23	PELLS, ARTHUR	Beccles and Lowestoft.
1651	1889, Dec. 9	PEMBERTON, CHARLES OLIVER PAGET	{ 69, Temple Row, Birmingham.
21	1868, Jun. 15	PENFOLD, JOHN W., F.R.I.B.A. (Honorary Secretary)	30, Great George Street, S.W.
452	1876, May 8	PEPPERCORN, JOHN HUTCHINSON	Manor House, Eaton Socon, St. Neots.
2855	1891, Nov. 4	PERKINS, JOSEPH	Laughton, Rugby.
1841	{ A. '86, Dec. 6 } { F. '91, May 25 }	*PERKINS, WALTER FRANK	Portswood House, Southampton, Hants.

p.	Date of Election and of Transfer.	FELLOWS.	
6	1891, May 23	PERRIAM, ALFRED JOSEPH . . .	52, St. John's Villas, Upper Holloway, N.
56	1891, Nov. 4	PETHER, HARRY	8, Craig's Court, Charing Cross, S.W.
52	1885, Feb. 9	*PETO, JAMES WINDER	6, Market Place, Reading, Berks.
28	1876, Feb. 21	PHILLIPS, FREDERICK HAMILTON	12, Belgrave Gardens, Dover, Kent.
52	1889, Dec. 9	PHILLIPS, WILLIAM EDWIN . .	Eagle Chambers, Kingston-on-Thames.
43	1884, Jan. 14	PICKERING, WILLIAM CLOVES .	Rhewl House, Mostyn, Flintshire.
51	1881, Dec. 19	PICKSTOCK, JOHN	Castle Hill, Winchester, Hants.
57	1891, Nov. 4	PIERCY, HENRY ONSLOW . . .	The Elms, Lowthorpe.
17	1889, Apr. 1	PIERSON, CHARLES	29, Cooper Street, Manchester.
58	{ A. '83, May 25 F. '86, Dec. 6 }	*PILDITCH, PHILIP EDWARD .	{ 17, Parliament Street, S.W., and 10, Upper Phil- imore Place, Kensington, W.
14	1890, Jan. 27	PINKS, EDWIN CHARLES . . .	45, Parliament Street, S.W.
58	1891, Nov. 4	PINNEY, JOHN GEORGE . . .	Brooklyn House, Axminster.
23	1891, Mar. 14	POPPE, JOHN	Groves Hall, Sleights, near Whitby.
59	1891, Nov. 4	PORTER, JOHN MERRY	The Estate Office, Colwyn Bay, N. Wales.
60	1891, Nov. 4	POSTON, HENRY	39, Lombard Street, E.C.
61	1891, Nov. 4	POTTS, JAMES	Stanbeck, Workington, Cumberland.
24	1870, Jan. 24	POUNDLEY, JOHN EDWARD . .	Kerry, Newtown, Montgomeryshire.
87	1877, May 14	POWELL, EVAN	Broomcliffe, Llanidloes, Montgomeryshire.
56	1890, Nov. 22	POWELL, FREDERICK ATKINSON .	{ 344, Kennington Park Road, S.E., and Agincourt Square, Monmouth.
22	{ A. '83, Dec. 17 F. '91, Mar. 16 }	POWELL, HUBERT JOHN . . .	Hill Lodge, Lewes, Sussex.
42	{ A. '74, Feb. 16 F. '80, Nov. 22 }	POWELL, REGINALD HENRY . .	St. Swithun's Lane, High Street, Lewes, Sussex
90	1877, Dec. 10	POWNALL, GEORGE HARRY . .	29, Parliament Street, S.W.
462	1891, Nov. 4	PREEDY, FREDERIC	Caldecote, St. Neots, Huntingdonshire.
486	{ A. '88, Dec. 10 F. '92, Dec. 5 }	*PRESTON, SAMUEL DAVID . .	Park Farm, Woburn, Beds.
781	1890, Apr. 14	PRICE, FRANCIS HOLBORROW GLYNN	{ Longlands Place, Swansea, Glamorganshire.
463	1891, Nov. 4	PRICE, JOHN, A.M.I.C.E. . . .	Lark Lane, Toxteth Park, Liverpool.
205	{ A. '84, May 26 F. '90, Nov. 10 }	PRICE, THOMAS WILLIAM . . .	Billiter Square Buildings, E.C.
191	1892, Feb. 26	PRIDAY, LEWIS HENRY	Longford Court, near Gloucester.
107	1891, May 23	PRIDMORE, ALBERT EDWARD .	{ 2, Broad Street Buildings, E.C., and 28, High Street, Watford, Herts.
557	1890, Nov. 22	PRIDMORE, ARTHUR STIRLING .	140, Junction Road, N.
416	1890, May 29	PRITCHETT, ELLIS HERBERT .	Farrington Street, Swindon, Wilts.
464	1891, Nov. 4	PROTHEROE, WILLIAM HENRY .	67 and 68, Cheapside, E.C.
273	1885, Nov. 9	PUNCHARD, FREDERICK	{ Underley Estate Office, Kirkby Lonsdale, West- moreland.
080	{ A. '84, Jan. 28 F. '89, Jan. 28 }	PURCHASE, EDWARD KEYNES . .	{ Mansion House Chambers, 11, Queen Victoria Street, E.C.
858	1890, Nov. 22	PURVES, PETER	Huntingdon, and 45, Lincoln's Inn Fields, W.C.
224	1884, Dec. 8	PYM, GEORGE EDWIN	Doods, Reigate, Surrey.

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2024	1891, Mar. 14	QUICK, FREDERIC W., A.M.I.C.E.	13, Culmore Road, Peckham, S.E.
796	1882, Apr. 24	RABY, JOSEPH WALKER . . .	74, Cross Street, Manchester.
1515	1888, Dec. 10	RADFORD, WILLIAM, M.I.C.E. .	1, Princess Street, Manchester.
1954	1891, Jan. 17	RADFORD, WILLIAM HAROLD .	1, Princess Street, Manchester.
1462	1888, Feb. 20	RAIKES, COLONEL GEORGE WHITTINGTON	} Ragley Estate Office, Alcester, Redditch.
2025	1891, Mar. 14	RANDALL, RICHARD	
2366	1891, Nov. 4	RANSFORD, BENJAMIN HERBERT	The Leaze, Berkeley, Gloucestershire.
2108	1891, May 23	RANSOM, THOMAS ROBERT . .	{ 12, Lower Grosvenor Place, and 32, Lowndes Street, S.W.
902	1883, Feb. 26	RAWLENCE, ERNEST ALFRED .	
231	1870, Feb. 7	RAWLENCE, JAMES	Salisbury, Wilts.
2026	1891, Mar. 14	RAWLENCE, JAMES EDWARD .	The Canal, Salisbury, Wilts.
1859	1890, Nov. 22	RAWLINS, HY. ADAIR, A.R.I.B.A.	46, Queen Victoria Street, E.C.
2367	1891, Nov. 4	RAWLINS, WILLIAM	124, Cannon Street, E.C.
184	1868, Oct. 26	RAYNBIRD, HUGH EDWARD . .	Basingstoke, Hants.
1516	1888, Dec. 10	REA, JOHN MARCUS BEAUMONT.	{ 8, Winckley Street, Preston, and Lytham Lancashire.
1139	1884, Apr. 21	READ, GEORGE HUNTLY . . .	
2109	1891, May 23	REBECK, EDWARD WISE . . .	Gervis Place, Bournemouth.
2368	1891, Nov. 4	REBECK, THOMAS WARREN .	Gervis Place, Bournemouth.
839	1882, Dec. 18	REDDALL, DAVID GADSDEN .	10, South Street, Finsbury, E.C.
1860	1890, Nov. 22	REES, ITHEL TREHARNE, M.I.C.E.	Guildhall Chambers, Cardiff.
584	1880, Dec. 13	REES, WILLIAM ANDREW . . .	7, Cornhill, E.C.
544	1879, Apr. 28	REES, WILLIAM GEORGE . . .	Holly House, Newport, Monmouthshire.
2369	1891, Nov. 4	REES, WILLIAM JOHN	Cradock Street, Swansea.
2370	1891, Nov. 4	REEVE, KINGSNORTH	{ 27, High Street, Rye, Sussex, and High Street Lydd, Kent.
929 { A. '83, Apr. 16 } F. '89, Jan. 28 }		REID, FRANCIS	
514	1878, Nov. 11	REID, PATRICK SANDEMAN . .	20, John Street, Adelphi, W.C.
937	1883, April 30	RENDELL, ARTHUR STEPHEN .	Market Terrace, Newton Abbot.
802 { A. '82, Apr. 24 } F. '90, Jan. 27 }		REX, FRANCIS HERBERT . . .	311, Kentish Town Road, N.W.
172 { A. '69, Feb. 8 } F. '82, Feb. 13 }		REX, WILLIAM	311, Kentish Town Road, N.W.
453 { A. '76, May 8 } F. '81, Dec. 6 }		RICH, ROBERT	Didcot, Berks.
890	1888, Feb. 12	RICHARDS, ALFRED	Tottenham, N., and 18, Finsbury Circus, E.C.
2027	1891, Mar. 14	RICHARDS, GEORGE EDWARD .	St. John's Hill, Wimborne, Dorset.
2371	1891, Nov. 4	RICHARDS, HENRY	Murthly Villas, St. Leonard's, Mortlake, S.W.
1197	1884, May 26	RICHARDS, HENRY BRINLEY .	79, Coleman Street, E.C.
2372	1891, Nov. 4	RICHARDS, THOMAS ROBERT .	Bedford Row Chambers, 42, Theobald's Road, W.C.
2110	1891, May 23	RICHARDS, WILLIAM	Tottenham, N., and 18, Finsbury Circus, E.C.
1955	1891, Jan. 17	RICHARDSON, CHARLES	13, Barn Hill, Stamford, Lincolnshire.
1746	1890, Feb. 24	RICHARDSON, GEORGE	Estate Office, Edenhall, Langwathby, Cumberland

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FELLOWS.

517	1890, May 29	RICHARDSON, JAMES	12, Barn Hill, Stamford, Lincolnshire.
61	1876, Dec. 18	RICHARDSON, JOHN, M.I.C.E. .	Methley Park, Leeds.
66	{ A. '91, Nov. 4 } { F. '92, May 30 }	*RICHARDSON, OLIVER ARCHER .	3, Almorah Road, Canonbury, N.
05	1890, Jan. 27	RICHMOND, WALTER COLERIDGE	The Hollies, Potter's Bar, N.
03	1873, Feb. 10	RICKMAN, THOMAS M., A.R.I.B.A. (Member of Council)	8, Montague Street, Russell Square, W.C.
73	1891, Nov. 4	RIDDETT, WILLIAM HAMMOND .	Townhall Chambers, Ryde, Isle of Wight
14	1883, April 2	RIDDLE, FREDERICK HENRY BRIMBLE	} 139, Trinity Road, Tooting, S.W.
28	1891, Mar. 14	RIGDEN, FRANCIS	
24	{ A. '82, Jan. 30 } { F. '83, Jan. 29 }	RIGDEN, HENRY WILLIAM . .	Salisbury, Wilts.
11	1891, May 23	RIGG, CHARLES	24, High Street, Cardiff.
17	1888, Dec. 10	RIGHTON, EDWARD GRANTHAM .	High Street, Evesham, Worcestershire.
74	1891, Nov. 4	RIX, GEORGE KERRY	Somerleyton, near Lowestoft.
28	{ A. '76, Jan. 24 } { F. '90, Nov. 10 }	ROBERTS, CHARLES QUINCEY .	2, South Square, Gray's Inn, W.C.
22	1890, Feb. 10	ROBERTS, HENRY CROYDON .	16, Abchurch Lane, E.C.
20	1868, Aug. 17	ROBERTS, RICHARD	42, New Broad Street, E.C.
786	1890, Apr. 14	ROBERTS, THOMAS, A.M.I.C.E..	Portmadoc, North Wales.
754	{ A. '82, Feb. 13 } { F. '91, May 26 }	ROBEY, ROBERT	Oaklands, East Tytherley, Romsey, Hants.
145	1888, Jan. 23	ROBINS, EDWARD	22, Conduit Street, W.
72	1868, Jul. 13	ROBINS, EDWARD C., F.R.I.B.A.	46, Berners Street, Oxford Street, W.
303	1881, Jan. 24	ROBINS, WILLIAM HENRY . .	82A, New Street, Birmingham.
350	1887, Jan. 10	ROBINSON, CHARLES EDWARD .	36, Coleman Street, E.C.
12	1891, May 23	ROBINSON, EDMUND ARTHUR .	Lee-on-the-Solent, Gosport, Hants.
375	1891, Nov. 4	ROBINSON, GEORGE EDWARD .	9, Tacketts Street, Blackburn.
318	1881, Apr. 4	ROBINSON, HENRY, M.I.C.E. .	Westminster Chambers, 13, Victoria Street, S.W.
310	1882, May 8	ROBINSON, NATHANIEL WISHART	Marlowes, Hemel Hempstead, Herts.
291	1872, Dec. 9	ROBSON, EDWARD ROBERT, F.R.I.B.A.	} Palace Chambers, 9, Bridge Street, S.W., and 2, The Paragon, Blackheath, S.E.
453	1888, Feb. 6	RODERICK, JOHN	
747	1890, Feb. 24	RODHAM, JOHN	16, Finkle Street, Stockton-on-Tees.
225	1884, Dec. 8	ROGERS, WILLIAM BENNETT .	78, Gloucester Road, South Kensington, S.W.
570	1889, Jan. 28	ROKER, MITCHEL JOHN . . .	Snowdenham, Branksome Park, Bournemouth.
361	{ A. '74, Dec. 7 } { F. '76 Jan. 24 }	ROLLESTON, JOHN FOWKE LANCELOT (Member of Council)	} Grey Friars, Leicester.
369	{ A. '83, May 25 } { F. '89, Jan. 23 }	*ROLLESTON, WILLIAM GUSTAVUS STANHOPE	
544	{ A. '86, Dec. 6 } { F. '87, Nov. 14 }	*ROODS, ALFRED	21, Surrey Street, Strand, W.C.
113	1891, May 23	ROOKE, ALFRED BRADLEY . .	11, Great James Street, Bedford Row, W.C.
376	1891, Nov. 4	ROONEY, SAMUEL	Caledonian Chambers, Cardiff.
681	{ A. '89, Dec. 9 } { F. '91, Jan. 5 }	ROPER, JOHN SIMPSON, A.M.I.C.E.	32, Market Square, Lancaster.
980	{ A. '83, Nov. 12 } { F. '87, Jan. 10 }	ROPER, WILLIAM	3, The Pantiles, Tunbridge Wells, Kent.
483	1888, Apr. 30	ROSE, THOMAS	13, Bank Street, Norwich.

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125	1868, Aug. 31	ROSSER, WILLIAM	Rhydyrhelig, Swansea, and Llanely, Carmarthen.
507	1878, Apr. 8	ROWE, RICHARD REYNOLDS, M.I.C.E., F.R.I.B.A. . . .	Park House, Cambridge.
940	{ A. '83, Apr. 30 } { F. '90, Jan. 27 }	ROWLANDSON, CHRISTOPHER	The College, Durham.
2114	1891, May 23	ROYCE, DAVID NEEDHAM	Oakham, Rutland.
2115	1891, May 23	ROYCE, JOHN	Oakham, Rutland.
2029	1891, Mar. 14	RUAULT, JOHN GUSTAVE PETER	17, Southampton Street, Bloomsbury, W.C.
2080	1891, Mar. 14	RUDKIN, ARTHUR JOHN	4, Walbrook, E.C.
2377	1891, Nov. 4	RUDMAN, SYDNEY CHARLES	Windlestone, Ferry Hill, Co. Durham.
2378	1891, Nov. 4	RUMBALL, AUBREY	St. Alban's, Herts.
2379	1891, Nov. 4	RUMBLE, HARRY HUMFREY	Court House, St. Marylebone, W.
970	{ A. '83 May 25 } { F. '90, Jan. 6 }	*RUNDLE, EDWARD COLLINS	Bedford Office, Tavistock, Devon.
1023	{ A. '83, Dec. 17 } { F. '89, Feb. 25 }	RÜNTZ, ERNEST AUGUSTUS	22, Moorgate Street, E.C.
815	{ A. '78, Dec. 8 } { F. '75, Nov. 8 }	RUSHWORTH, EDMUND WALTER	22, Savile Row, W.
1787	1890, Apr. 14	RUSSEL, ROBERT JOHN	Brackley, Northants, and Banbury, Oxon.
2031	1891, Mar. 14	RUSSELL, MURRAY LAWRENCE	3, King Street, Cheapside, E.C.
1261	1885, Mar. 9	RUTHERFORD, JAMES.	Kirk-leatham, Redcar, Yorkshire
1547	1889, Jan. 14	RUTHERFORD, JAMES AUGUSTINE	Estate Office, Highclere Park, Newbury.
998	1888, Dec. 17	RUTLEY, CHARLES	11, Dowgate Hill, E.C.
1818	1890, May 29	RUTLEY, FRANK	11, Dowgate Hill, E.C.
2380	1891, Nov. 4	RYAN, WILLIAM PATRICK. . . .	{ Thorner's Chambers, Ingram Court, Fenchurch Street, E.C.
466	{ A. '76, Dec. 18 } { F. '80, Nov. 8 }	RYDE, ARTHUR LYON	29, Great George Street, S.W.
900	{ A. '88, Feb. 26 } { F. '91, June 29 }	RYDE, CHARLES BERTRAM	29, Great George Street, S.W.
421	1876, Jan. 24	SADLER, GEORGE WILLIAM	467, High Street, Cheltenham.
256	1871, Feb. 13	ST. QUINTIN, PERRY.	50, Threadneedle Street, E.C.
438	{ A. '76, Mar. 20 } { F. '80, Nov. 25 }	ST. QUINTIN, RICHARD SAMUEL	50, Threadneedle Street, E.C.
1518	1888, Dec. 10	SALTER, WILLIAM HERBERT	The Hall, Attleborough, Norfolk.
1788	1890, Apr. 14	SAMPLE, CHARLES HERBERT	Matfen, near Newcastle-on-Tyne.
1436	1888, Jan. 9	SAMPLE, THOMAS	Bothal Castle, near Morpeth, Northumberland.
1789	1890, Apr. 14	SAMPLE, WILLIAM COLLINGS	Bothal Castle, near Morpeth.
1519	1888, Dec. 10	SAMPSON, GEORGE	Beauchief Abbey, Sheffield.
1682	{ A. '89, Dec. 9 } { F. '91, Oct. 15 }	SAMPSON, WILLIAM	Beauchief Abbey, near Sheffield.
1384	1887, Mar. 21	SAMUEL, WILLIAM JOHN	Newport Pagnell, Bucks.
2116	1891, May 23	SANCTUARY, CAMPBELL FORTESCUE } STAPLETON }	Mangerton, Melplash, Dorset.
397	1875, Apr. 26	SANDAY, GEORGE HENRY	Langdale Lodge, Adkin Road, Clapham Park, S.W.
741	1882, Feb. 13	SANDERS, THOMAS	{ 148, Worcester Street, Bromsgrove, Worcester shire.
458	1876, Nov. 27	SANDY, HENEY	Newport Road, Stafford.
2381	1891, Nov. 4	SARGEANT, JOHN	4, Holden Terrace, Grosvenor Gardens, S.W.

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167	1869, Feb. 8	SAUNDERS, CECIL GEORGE . . .	5 Robert Street, Adelphi, W.C.
1696	{ A. '90, Jan. 6 } { F. '92, Nov. 14 }	*SAUNDERS, CHARLES HERBERT . . .	40, Gloucester Road, S.W.
177	1869, Feb. 22	SAUNDERS, EDWARD	6, Bishopsgate Street Without, E.C.
2382	1891, Nov. 4	SAUNDERS, MARTIN L., A.R.I.B.A.	9, Finsbury Circus, E.C.
2082	1891, Mar. 14	SAUNDERS, RUTLAND	6, Bishopsgate Street Without, E.C.
2383	1891, Nov. 4	SAUNDERS, THEODORE RIDLEY . .	Belgrave Chambers, Ventnor, Isle of Wight.
121	1863, Aug. 17	SAVILL, ALFRED	39, New Broad Street, E.C., and Chigwell, Essex.
782	{ A. '82, Mar. 13 } { F. '89, Mar. 18 }	SAVILL, ALFRED, JUN.	39, New Broad Street, E.C.
867	{ A. '83, Jan. 15 } { F. '92, Feb. 1 }	SCAMMELL, THOMAS	14, John Street, Bristol.
333	1874, Feb. 2	SCARTH, WILLIAM T.	Raby Castle, Darlington.
2384	1891, Nov. 4	SCOTT, AUGUSTUS FREDERIC . . .	24, Castle Meadow, Norwich.
1385	1887, Mar. 21	SCOTT, HENRY LACY	Bury St. Edmund's, Suffolk.
629	{ A. '81, Dec. 5 } { F. '82, Apr. 24 }	SCOVELL, JOHN	Oulton Park, Tarporley, Cheshire.
755	{ A. '82, Feb. 13 } { F. '89, Mar. 4 }	SCRIVEN, CHARLES HERBERT . .	Bank Plain, Norwich.
1361	1890, Nov. 22	SCRIVEN, RICHARD GEORGE . . .	Castle Ashby, Northampton.
1362	1890, Nov. 22	SCROGGS, WILLIAM	Rectory House, Kidlington, Oxford
1706	1890, Jan. 27	SEBASTIAN-SMITH, CHARLES . . .	Shipley, Derby, and Friar Lane, Leicester.
534	1879, Mar. 3	SELBY, CHARLES FREDERIC . . .	19, Queen Anne's Gate, S.W.
1723	1890, Feb. 10	SELBY-BIGGE, CHARLES P. O. . .	Bourton Estate Office, Much Wenlock, Shropshire.
1863	1890, Nov. 22	SENIOR, HARRY SAMUEL	Sturminster Newton, Dorset.
1653	1889, Dec. 9	SETH-SMITH, WM. H., F.R.I.B.A.	46, Lincoln's Inn Fields, W.C.
823	{ A. '82, Nov. 13 } { F. '86, May 3 }	SEYMOUR, RICHARD ARTHUR } HAMILTON }	46, Earl Street, Maidstone, Kent.
1049	{ A. '84, Jan. 14 } { F. '91, Mar. 16 }	SHACKLE, EDWARD NEILD	7, Hobart Place, S.W.
481	1876, Mar. 6	SHAW, JOHN	College Place, Derby.
		(Member of Council)	
950	{ A. '83, May 21 } { F. '90, Mar. 10 }	SHAW, JOHN, JUN.	The College, All Saints', Derby.
1819	1890, May 29	SHELMERDINE, HENRY	{ Estate Offices, Lancashire and Yorkshire Railway, Hunt's Bank, Manchester.
1748	1890, Feb. 24	SHEPPARD, ERNEST	111, Eaton Terrace, Ebury Street, S.W.
999	1883, Dec. 17	SHEPPARD, OSBORNE	Glynelydach, Neath.
1316	1886, May 3	SHERWIN, JOHN LESTER	40, Old Broad Street, E.C.
706	{ A. '82, Jan. 16 } { F. '87, Dec. 5 }	SHERWIN, JOSEPH HENRY	16, Whitehall Place, S.W.
2117	1891, May 23	SHILCOCK, JAMES	Hitchin, Herts, and 15, Basinghall Street, E.C.
2385	1891, Nov. 4	SHONE, ISAAC, A.M.I.C.E. . . .	Great George Street Chambers, Westminster, S.W.
474	{ A. '77, Jan. 29 } { F. '80, Nov. 8 }	SHOPPEE, CHAS. H., F.R.I.B.A.	22, John Street, Bedford Row, W.C.
74	1868, Jul. 13	SHOPPEE, CHAS. J., F.R.I.B.A.	61, Doughty Street, W.C.
		(President)	
604	{ A. '81, Jan. 24 } { F. '83, May 21 }	*SHILCOCK, THOMAS BALL	Octagon Chambers, Milsom Street, Bath.
720	1882, Jan. 30	SIMMONDS, FREDERICK	Parkside, Englefield Green, Surrey.
1654	1889, Dec. 9	SIMMONS, CHARLES	Henley-on-Thames.
811	{ A. '82, May 8 } { F. '89, Nov. 11 }	SIMMONS, CHARLES FRANKLIN . .	Basingstoke, Hants, and Henley-on-Thames.

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824	{ A. '82, Dec. 4 } F. '91, Aug. 4 }	SIMMONS, WILLIAM ANKER . .	Henley-on-Thames, and Basingstoke.
903	1883, Feb. 26	SIMMS, WALTER	27, Albany Street, N.W.
1486	1888, May 14	SIMPSON, ROBERT THOMAS . .	Horsecroft, Bury St. Edmunds, Suffolk.
2386	1891, Nov. 4	SINGLE, ARTHUR	83, The Grove, Stratford, E.
2387	1891, Nov. 4	SKITT, ARTHUR	Glenbrook, Trent Road, Brixton Hill, S.W.
2388	1891, Nov. 4	SLADE, JAMES BENJAMIN . . .	67 & 68, Cheapside, E.C.
1903	{ A. '90, Nov. 22 } F. '92, Nov. 14 }	*SLATER, CHARLES FREDERICK .	21, Ellerker Gardens, Richmond, Surrey.
282	1872, Apr. 22	SLATER, GEORGE	Canterbury.
596	{ A. '80, Dec. 12 } F. '88 April, 30 }	SMALLPEICE, GEORGE BAKER . .	9 and 10, Tokenhouse Yard, E.C., and Guildford.
195	1868, Oct. 26	SMELLIE, THOMAS DAVIES . . .	209, St. Vincent Street, Glasgow.
122	1868, Aug. 17	SMITH, CHARLES BOVILL . . .	Wykeham House, Fareham, Hants.
1626	1889, May 13	SMITH, EDWARD	54, Amwell Street, E.C.
1484	1888, Apr. 30	SMITH, FRANK	37, Cannon Street, Birmingham.
2389	1891, Nov. 4	SMITH, FRANK ADAMS, A.M. I.C.E.	28, Finsbury Circus, E.C.
1588	{ A. '88, Dec. 10 } F. '90, Jan. 27 }	*SMITH, FRANK WILLIAM . . .	Beauchamp Hill, Milverton, Leamington.
2033	1891, Mar. 14	SMITH, FREDERIC ELLISON . .	Tanfield Chambers, Bradford.
2390	1891, Nov. 4	SMITH, FREDERICK JOHN . . .	21, Portland Street, Southampton.
2034	1891, Mar. 14	SMITH, FREDERICK ROBERT . .	6, Great College Street, S.W.
1655	1889, Dec. 9	SMITH, GEORGE	Boughton-Monchelsea, Kent.
2119	1891, May 23	SMITH, GEORGE ALFRED . . .	78, Parchment Street, Winchester.
1864	1890, Nov. 22	SMITH, HARRY RUSSELL . . .	Exchange Buildings, Bradford.
454	{ A. '76, May 8 } F. '81, Dec. 6 }	SMITH, HENRY	8, John Street, Adelphi, W.C.
400	{ A. '75, Apr. 26 } F. '81, Jan. 24 }	SMITH, HENRY HERBERT . . .	Chippenham, Wilts. and 7, Whitehall Place, S.V.
2391	1891, Nov. 4	SMITH, JOHN MOORE	14, Union Court, Old Broad Street, E.C.
1487	1888, May 14	SMITH, JOHN THOMPSON . . .	Tattondale, Knutsford, Cheshire.
955	1883, May 25	SMITH, JOSEPH	Tanfield Chambers, Bradford.
2118	1891, May 23	SMITH, PERCY PYNE CALDECOTT	19, Redcliffe Square, S.W.
1320	1890, May 29	SMITH, SIDNEY	Southwater, Horsham, Sussex.
2392	1891, Nov. 4	SMITH, SIDNEY R. J., F.R.I.B.A.	14, York Buildings, Adelphi, W.C.
894	{ A. '83, Feb. 12 } F. '89, Feb. 25 }	SMITH, WHEATER	15, Cheapside, Bradford.
1256	1885, Feb. 23	*SMITH, WILLIAM	{ Upper Farm, Abbot's Salford, Evesham, Worcester- shire.
1372	1887, Feb. 21	SMYTH - RICHARDS, GEORGE } COBLEY	6, Castle Street, Barnstaple, Devon.
1494	1888, Nov. 12	SNELLING, HENRY	19 and 20, Walbrook, E.C., and Sidcup, Kent.
146	1868, Nov. 9	SOUTHWELL, CHARLES JOSIAH .	Hook Field House, Bridgnorth, Shropshire.
1821	1890, May 29	SPACKMAN, CHARLES CHANTREY	6, Terrace Walk, Bath.
96	1868, Jul. 27	SPACKMAN, HENRY	6, Terrace Walk, Bath.
1689	1890, Jan. 6	SPELMAN, CLEMENT CHARLES RIX	St. Giles' Street, Norwich.
2035	1891, Mar. 14	SPINK, THOMAS	64, Holborn Viaduct, E.C.
1107	1884, Feb. 25	SPURLING, HENRY	81, Prince's Street, Ipswich, Suffolk.
42	1868, Jun. 15	SQUAREY, ELIAS PITTS	{ The Moot, Downton, Salisbury, and 22, Gre- George Street, S.W.

(Past-President)

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
922	1890, May 29	SQUAREY, NEWELL WILLIAM PITTS	{ The Moot, Downton, Salisbury, and 22, Great George Street, S.W.
067	1884, Jan. 28	SQUIRE, RICHARD	
277	1885, Dec. 7	STACEY, HARRIE	2, Pont Street, Belgrave Square, S.W.
268	1885, May 4	STAFFORD, ROBERT BARRY . . .	Station Road, Redhill, Surrey.
393	1891, Nov. 4	STALLARD, ALFRED EDWIN . . .	83, High Street, Bedford.
394	1891, Nov. 4	STALLARD, WILLIAM	West Street, Havant.
395	1891, Nov. 4	STALLARD, WILLIAM	Estate Office, Madresfield, Malvern Link.
840	1891, Nov. 4	STANFORD, CHARLES MAURICE . .	23, High Street, Colchester.
840	1882, Dec. 18	STANGER, CALEB, A.R.I.B.A. . .	21, Finsbury Pavement, E.C.
2086	1891, Mar. 14	STANGER, SAMUEL ARTHUR . . .	21, Finsbury Pavement, E.C.
120	1891, May 23	STANHAM, GEORGE GORDON . . .	100b, Queen Victoria Street, E.C.
437	1888, Jan. 9	STANLEY - DODGSON, STANLEY } DICKINSON }	Estate Office, Somerset House, Whitehaven, Cumberland.
707	1890, Jan. 27	START, JOSEPH WILLIAM	Cups Chambers, High Street, Colchester, Essex.
2396	1891, Nov. 4	STEDMAN, CHARLES MASON . . .	{ The Turret House, Killieser Avenue, Streatham Hill, S.W.
469	1877, Jan. 15	STENNING, ALEX. R., F.R.I.B.A.	121, Cannon Street, E.C.
529 {	A. '79, Jan. 6 } F. '82, Nov. 13 }	STEPHENSON, CHARLES WILLIAM	38, Parliament Street, S.W.
1823	1890, May 29	STEVENS, CHARLES VIVIAN . . .	7, Whitehall Place, S.W.
2397	1891, Nov. 4	STEVENS, JOHN WM., A.R.I.B.A.	21, Bridge Street, E.C.
1198	1884, May 26	STEVENS, WILLIAM CHARLES . . .	22, Savile Row, W.
2087	1891, Mar. 14	STEVENSON, EDMUND H., M.I.C.E.	38, Parliament Street, S.W.
97	1868, Jul. 27	STEWART, HERBERT THOMAS (Member of Council)	45, Parliament Street, S.W.
2038	1891, Mar. 14	STIRTON, THOMAS	{ Estate Office, West Stratton, Micheldever Station, Hants.
938	1883, April 30	STOCK, HENRY, F.R.I.B.A. . . .	9, Denman Street, London Bridge, S.E.
2121	1891, May 23	STOCKS, FREDERICK WILLIAM . .	Estate Office, Mere, Knutsford.
2398	1891, Nov. 4	STOKES, FREDERICK VINCENT . .	31, Great James Street, Bedford Row, W.C.
654	1881, Dec. 19	STONER, ALFRED	8, Blomfield Street, E.C.
1599	1889, Mar. 4	STOOKE, JAMES	Courtenay Street, Newton Abbot, Devon.
2399	1891, Nov. 4	STOPHER, THOMAS	Winchester, Hants.
2039	1891, Mar. 14	STREET, WM. CHAS., F.R.I.B.A.	7, Victoria Street, S.W.
1108	1884, Feb. 25	STRUDWICK, HAYWARD JAMES . .	Falcon Court, 32, Fleet Street, E.C.
655	1881, Dec. 19	STRUDWICK, WILLIAM HENRY . .	14, Parliament Street, S.W.
415 {	A. '75, Dec. 13 } F. '91, June 29 }	STRUTT, HON. EDWARD GERALD	{ 43, Finsbury Circus, E.C., and Whitelands, Hatfield Peverel, Chelmsford, Essex.
1488	1888, May 14	STUDDY, THOMAS EDWARD . . .	Broxton, Chilbolton, Hants.
87	1868, Jul. 20	STURGE, ROBERT FOWLER	34, Corn Street, Bristol.
18	1868, Jun. 15	STURGE, WILLIAM (Past-President)	34, Corn Street, Bristol.
2400	1891, Nov. 4	SURRIDGE, JOSEPH SMITH . . .	Coggeshall, Essex.
2401	1891, Nov. 4	SUTHERS, JAMES	Victoria Villas, Todmorden.
2402	1891, Nov. 4	SWAIN, ERNEST	82, High Street, Notting Hill, W.
2403	1891, Nov. 4	SWAIN, FRANK	82, High Street, Notting Hill, W.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
1427	{ A. '87, Dec. 11 } { F. '92, Feb. 1 }	SWETENHAM, HENRY	Nidd, Ripley, Yorkshire.
1257	1885, Feb. 28	SWORDER, HUGH	High Street, Epping, Essex.
1068	1884, Jan. 28	SYMONS, PHILIP	Fore Street, Totnes, Devon.
1956	1891, Jan. 17	SYNGE, EDWARD MILLINGTON .	Eastlands, Weybridge.
1824	1890, May 29	TABBERER, BENJ., F.R.I.B.A. .	13, Basinghall Street, E.C.
1317	1886, May 3	TANNER, HENRY, F.R.I.B.A. .	H.M. Office of Works, Whitehall Place, S.W.
1092	1884, Feb. 11	TANNER, JAMES MELHUISE . .	Wembworthy, North Devon.
1115	{ A. '84, Feb. 25 } { F. '88, Dec. 10 }	TANNER, WILLIAM	Lynhurst, Newport, Monmouthshire.
771	{ A. '82, Feb. 27 } { F. '89, Nov. 11 }	TAPP, ARTHUR	{ 15, Great George Street, and Southend-on-Sea, Essex.
2404	1891, Nov. 4	TASKER, HENRY HUGH	53, Penton Street, Pentonville, N.
233	{ A. '70, Feb. 7 } { F. '78, Jan. 28 }	TATHAM, GEORGE HENRY . .	{ 63 & 64, New Broad Street, E.C., and Romford, Essex.
2405	1891, Nov. 4	TAYLOR, ARTHUR WILLIAM . .	119, High Street, Putney, S.W.
1364	1887, Jan. 24	TAYLOR, EDWARD FERGUSSON .	{ New Barnet, Herts, and 79 & 72, Chancery Lane, W.C.
1471	{ A. '88, Mar. 5 } { F. '91, July 6 }	TAYLOR, JOHN HERBERT . . .	15, Great George Street, S.W.
678	{ A. '81, Dec. 19 } { F. '87, Feb. 7 }	TAYLOR, JOHN W., F.R.I.B.A. .	31, Westgate Road, Newcastle-on-Tyne.
1026	{ A. '83, Dec. 17 } { F. '89, Nov. 11 }	TAYLOR, MATTHEW	Northchapel, Petworth, Sussex.
1825	1890, May 29	TAYLOR, RICHARD FREDERICK .	3, King Street, Cheapside, E.C.
2406	1891, Nov. 4	TAYLOR, SAMUEL	Nuttall, Nottingham.
2407	1891, Nov. 4	TAYLOR, THOMAS WALTERS . .	25, Brazennose Street, Manchester.
1069	1884, Jan. 28	TEWSON, EDWARD	80, Cheapside, E.C.
859	{ A. '82, Dec. 18 } { F. '85, Jan. 12 }	TEWSON, EDWARD ARTHUR . .	80, Cheapside, E.C.
806	{ A. '82, Apr. 24 } { F. '90, Nov. 10 }	THEOBALD, HENRY	{ 87, Finsbury Pavement, E.C., and Cleveland Road, South Woodford, Essex.
924	1883, April 16	THEOBALD, HENRY WELLS DEW- HURST	{ 110, Great Russell Street, W.C.
2408	1891, Nov. 4	THOMAS, GEORGE	Queen's Chambers, Cardiff.
1765	1890, Mar. 10	THOMAS, GLEGGE	{ Cheshire Lines Committee, Central Station, Liverpool.
2409	1891, Nov. 4	THOMAS, JOHN HENRY	78, Gloucester Road, South Kensington, S.W.
329	1874, Jan. 19	THOMAS, JOSIAH	Athenæum Chambers, Nicholas Street, Bristol.
2410	1891, Nov. 4	THOMAS, WILLIAM	Castlemartin Court, near Pembroke.
841	1882, Dec. 18	THOMPSON, ARTHUR EDMUND .	Leadenhall Buildings, E.C.
2411	1891, Nov. 4	THOMPSON, FRANCIS WILLIAM .	5, Wood Street, Bolton.
2412	1891, Nov. 4	THOMPSON, GEO. W., A.M.I.C.E.	36, Wood Vale, Forest Hill, S.E.
1329	1886, Dec. 6	THOMSON, WILLIAM CUNNINGHAM	Estate Office, Luton Hoo, Luton, Beds.
1473	1888, Mar. 19	THORNE, ARNOLD, F.R.I.B.A. .	Cross Street, Barnstaple, Devon.
757	{ A. '82, Feb. 13 } { F. '89, Nov. 25 }	THORPE, CHRISTOPHER	Chesterfield.
2122	1891, May 23	THORPE, JOHN	Nailstone, Hinckley, Leicestershire.
1900	1883, Dec. 17	THORPE, WILLIAM	Nailstone, Hinckley, Leicestershire.

No. Date of Election and of Transfer.	FELLOWS.	
57 1881, Dec. 19	THURGOOD, HERBERT JOHN	27, Chancery Lane, W.C.
23 1889, Apr. 29	THURGOOD, WILLIAM HENRY	22, Great George Street, S.W.
91 { A. '80, Dec. 13 } { F. '87, Nov. 14 }	THURNALL, JOHN EDWARD	Royston, Herts.
94 1878, Jan. 14	THURSFIELD, THOMAS HOWELLS	Barrow, Brosely, Shropshire.
45 1868, Jun. 15	THYNNE, EDWARD LEWIS	11, Great George Street, S.W.
55 1869, Jan. 11	THYNNE, FREDERICK GEORGE	11, Great George Street, S.W.
70 1884, Jan. 28	THYNNE, GUY HARRY	11, Great George Street, S.W.
86 1890, Nov. 22	TIDMAN, EDWARD	Connaught Mansions, 34, Victoria Street, S.W.
97 { A. '86, Jan. 11 } { F. '89, Mar. 18 }	*TIFFEN, JOHN HENRY	Conservancy Buildings, Hull.
42 1882, Feb. 18	TIFFEN, JOSEPH	Conservancy Buildings, Hull.
87 1887, Feb. 21	TINDALL, CHARLES WILLIAM	Scawby, Brigg, Lincolnshire.
113 1891, Nov. 4	TODD, RICHARD	Englefield, near Reading.
241 1885, Jan. 12	TODD, WILLIAM H., M.I.C.E.	County Buildings, Hull.
138 1888, Jan. 9	TOMLINSON, THOMAS	Estate Office. Alnwick Castle, Northumberland.
300 1889, Mar. 4	TOMPSETT, WILLIAM ROBERT	{ Stone Castle Farm, Paddock Wood, Kent, and 182, High Street, Tonbridge.
327 1890, May 29	TOMSON, JAMES JOHN	The Chalet, King's Norton, near Birmingham.
766 1882, Feb. 27	TOOTELL, CHARLES	13, King Street, Maidstone, Kent.
767 1882, Feb. 27	TOOTELL, JOSEPH	13, King Street, Maidstone, Kent.
478 1877, Jan. 29	TOOTELL, RICHARD WILLIAM	11, Queen Victoria Street, E.C.
447 1876 Apr. 24	TOWER, BROWNLOW RICHARD CHRISTOPHER	{ Bridgewater Estate Office, Ellesmere, Salop.
414 1891, Nov. 4	TRAFFORD, FREDERICK CHARLES	100, Jermyn Street, St. James's, S.W.
972 { A. '83, May 25 } { F. '86, Dec. 6 }	*TREADWELL, HENRY JOHN	2, Waterloo Place, Pall Mall, S.W.
415 1891, Nov. 4	TREPPIN, ERNEST C.	Vasterne, Wootton Bassett, Wilts.
001 1888, Dec. 17	TRETHERY, HENRY	Silsoe, Amptill, Beds.
292 1886, Jan. 11	TRIST, JOHN WILLIAM	62, Old Broad Street, E.C.
355 1874, May 11	TROLLOPE, CHARLES BROWN	13, Parliament Street, S.W.
592 { A. '80, Dec. 13 } { F. '91, Jan. 19 }	TROLLOPE, HENRY CHARLES	7, Hobart Place, S.W.
123 1891, May 23	TROUNSON, JOHN WILLIAM, F.R.I.B.A.	{ 27, Clarence Street, Penzance.
131 { A. '84, Mar. 10 } { F. '91, Aug. 4 }	TRUMPER, JOHN ALFRED	23, Lincoln's Inn Fields, W.C.
92 1868, Jun. 15	TRUMPER, RICHARD	23, Lincoln's Inn Fields, W.C.
040 1891, Mar. 14	TOBBS, WALTER BURNELL	St. Martin's House, 1, Gresham Street, E.C.
110 1868, Aug. 8	TUCKETT, PHILIP DEBELL	2, Basinghall Street, E.C.
521 1878, Dec. 9	TUNLEY, GEORGE	28, Finsbury Circus, E.C.
416 1891, Nov. 4	TURNER, ALEXANDER HENRY	199, Piccadilly, W.
495 1888, Nov. 12	TURNER, CHARLES	Oakhurst, East Grinstead, Sussex.
904 1883, Feb. 26	TURNER, FREDERICK JOHN	Mansfield-Woodhouse, Mansfield, Notts.
1071 1884, Jan. 28	TURNER, JOHN	The Grange, Ulceby, Lincolnshire.
1866 1890, Nov. 22	TURNER, JOSEPH HARLING	Portland Estate Offices, Kilmarnock.
2124 1891, May 23	TURNER, THOMAS NEVE	37, Upper Berkeley Street, Portman Square, W.
5520 1888, Dec. 10	TURNER, THOMAS WARNER	Welbeck Abbey, Worksop, Notts.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
548	1879, May 12	TURNER, WILLIAM WEBB . . .	9, Clinton Place, Seaford. Sussex.
1246	1885, Jan. 26	TURNOR, EXSUPERIUS WESTON .	The Green, Stafford.
1867	1890, Nov. 22	TURTON, EDWARD JAMES . . .	Horkstow, Barton-on-Humber, Lincolnshire.
2417	1891, Nov. 4	TYSER, RICHARD.	360, High Road, Chiswick W.
2041	1891, Mar. 14	UPCHER, EDWARD BERNERS .	Kirby Cane, Norfolk.
1571	1889, Jan. 28	USHER, ALFRED	Belize, British Honduras.
905	1883, Feb. 26	VAIZEY, JOHN GEORGE . . .	{ Bocking, Braintree, Essex, and 44, Bedford Row W.C.
2125	1891, May 23	VALLANCE, ROBT. F., F.R.I.B.A.	Mansfield, Notts.
1002	1883, Dec. 17	VEEVERS, RICHARD	Woningworth, Fulwood Park, Preston.
319	{ A. '78, Dec. 8 } { F. '78, Nov. 11 }	VENABLES, FREDERICK . . .	60, Chancery Lane, W.C.
429	1876, Feb. 21	*VERNON, ARTHUR	{ Borshams, 'High Wycombe, Bucks; and 2 Cockspar Street, S.W.
		(Member of Council)	
2289	1891, Nov. 4	†VERNON-INKPEN, GEORGE CHAS.	6, King's Road, Southsea, Hants.
418	1876, Jan. 10	VIGERS, ASTLEY	4, Frederick's Place, E.C.
268	1871, Dec. 4	VIGERS, EDW., JUN., F.R.I.B.A.	31, Parliament Street, S.W.
498	{ A. '78, Jan. 28 } { F. '88, Nov. 12 }	VIGERS, LESLIE ROBERT . . .	4, Frederick's Place, E.C.
594	{ A. '80, Dec. 13 } { F. '85, Nov. 9 }	VIGERS, MARTIN	52, Queen Victoria Street, E.C.
46	1863, Jun. 15	VIGERS, ROBERT	4, Frederick's Place, E.C.
		(Member of Council)	
1496	1888, Nov. 12	VILLAR, JAMES	1A, Cambray, Cheltenham.
1601	1889, Mar. 4	WACHER, THOMAS	Upper Bridge Street, Canterbury, Kent.
1868	1890, Nov. 22	WADDINGTON, JOHN ALLEN . .	Bayfordbury, Hertford.
2126	1891, May 23	WADE, GEORGE TEMPEST . . .	Halford Street, Leicester.
842	1882, Dec. 18	WADE, JOHN	10, Pitt Street, Barnsley.
2418	1891, Nov. 4	WADLING, HY. JOHN, F.R.I.B.A.	Lamb Building, Temple, E.C.
2419	1891, Nov. 4	† WADMORE, BEAUCHAMP, A.R.I.B.A.	35, Great St. Helen's, E.C.
1618	1889, Apr. 1	WAGSTAFFE, THOMAS ROGERS .	{ 11, Devonshire Road, Balham, S.W. and 10 Leadenhall Street, E.C.
843	1882, Dec. 18	WAINWRIGHT, CHARLES RAW. LINSON	{ Shepton Mallet, Somerset.
1631	1889, Nov. 25	WAINWRIGHT, THOMAS TAYLOR.	21, Leigh Street, Liverpool.
1392	1887, May 9	WALCOTT, LYONS RODEN SYMPSON	1, Gray's Inn Place, W.C.
1869	1890, Nov. 22	WALKER, FRANCIS ELLIOTT . .	Blake Street, York.
2421	1891, Nov. 4	WALKER, GEORGE BOOTH . . .	Wainfleet, Lincolnshire.
743	1882, Feb. 13	WALKER, HERBERT, A.M.I.C.E., F.R.I.B.A.	{ Newcastle Chambers, Angel Row, Nottingham.
2127	1891, May 23	WALKER, JOSEPH.	Lenton Avenue, The Park, Nottingham.

p. Date of Election D. and of Transfer.	FELLOWS.	
71 { A. '91, Nov. 4 } { F. '92, Oct. 12 }	*WALKER, JOSEPH ARTHUR . .	Ashton Court Estate, Long Ashton, Clifton.
73 1890, Mar. 24	WALKER, JOSHUA	Market Place, Retford, Notts.
22 1891, Nov. 4	WALKER, ROBERT, F.R.I.B.A. .	33, King Street, W.C.
59 1891, Dec. 19	WALKER, SAMUEL	22, Moorgate Street, E.C.
72 1884, Jan. 28	WALL, GEORGE YOUNG	Exchequer Buildings, Durham.
20 1891, Nov. 4	WALLACE, GEORGE	{ St. Giles' District Board of Works, 197, High Holborn, W.C.
178 1884, May 19	WALLACE, HENRY	Trench Hall, Gateshead-on-Tyne, Co. Durham.
155 1888, Feb. 6	WALLINGTON, JOHN ARTHUR BEACH }	Basingstoke, Hants.
785 1882, Mar. 27	WALMISLEY, ARTHUR THOMAS, M.I.C.E. }	{ 9, Victoria Street, S.W., and Harbour Board Offices, Dover, Kent.
42 1891, Mar. 14	WALMISLEY, J. W., F.R.I.B.A. .	7, King's Terrace, Southsea, Hants.
870 1890, Nov. 22	WALSH, ALBERT MELLOR	19, King Edward Street, Macclesfield.
828 1890, May 29	WANKLYN, PHILLIP ENDELL . .	Dixon, near Monmouth.
407 1887, Dec. 19	WARD, DANIEL }	{ 8, Courtenay Street, Plymouth, and Hewton, Beeralston, Devon.
724 1890, Feb. 10	WARD, FELIX JOHN	Crowsmoor, Aston-on-Clun, Salop.
469 1888, Mar. 5	WARD, FRANK	Burnville, Bridestowe, North Devon.
029 { A. '83, Dec. 17 } { F. '89, Nov. 11 }	WARD, GEORGE	"Lyndhurst," 2, Stowe Road, Goldhawk Road, W.
660 1881, Dec. 19	WARE, CHAS. EDWIN, M.I.C.E. .	Gandy Street Chambers, Exeter.
141 1884, Apr. 21	WARING, CHARLES EDWARD . .	1, Charles Street, Crockherbtown, Cardiff.
871 1890, Nov. 22	WARING, HERBERT FULLER . .	46, Earl Street, Maidstone, Kent.
2423 1891, Nov. 4	WARNER, ALFRED E., A.R.I.B.A. .	6, Waterloo Place, S.W.
1632 1889, Nov. 25	WARNER, HENRY	Faringdon, Alton, Hants.
189 { A. '69, Mar. 8 } { F. '75, Apr. 12 }	WARNER, WILLIAM HENRY . .	130, Mount Street, Grosvenor Square, W.
2424 1891, Nov. 4	WATERMAN, ALBERT JAMES . .	20, Week Street, Maidstone.
874 1883, Jan. 29	WATERMAN, JAMES	Ashford, Kent.
1109 1884, Feb. 25	WATERMAN, RICHARD	20, Week Street, Maidstone, Kent.
2044 1891, Mar. 14	WATERS, EDWARD	The Canal, Salisbury, Wilts.
1110 1884, Feb. 25	WATERS, FRANK	1, Sidney Street, Cambridge.
758 { A. '82, Feb. 13 } { F. '87, Mar. 7 }	WATERS, WILLIAM RICHARD . .	21, Upper Berkeley Street, Portman Square, W.
1101 { A. '84, Feb. 11 } { F. '89, Mar. 4 }	WATKINS, ROBERT ARUNDEL . .	Castle Combe, Chippenham, Wilts.
47 1868, Jun 15	WATNEY, DANIEL (Vice-President)	33, Poultry, E.C.
1957 1891, Jan. 17	WATNEY, DENDY	4A, Frederick's Place, E.C.
951 { A. '83, May 21 } { F. '87, Feb. 21 }	WATNEY, WALTER DANIEL . .	33, Poultry, E.C.
1657 1889, Dec. 9	WATSON, ALFRED	60, Queen Victoria Street, E.C.
574 1880, Mar. 1	WATSON, HERBERT EDWARD . .	New Grove, Petworth, Sussex, and Clifton, York.
797 1882, Apr. 24	WATSON, JOHN	Shirburn Castle, Tetsworth, Oxon.
2425 1891, Nov. 4	WATSON, JOHN	62, Whitefriar-gate, Hull.
1456 1888, Feb. 6	WATT, ALEXANDER	Ravenglass, Carnforth, Lancashire.
467 { A. '76, Dec. 18 } { F. '79, Nov. 10 }	WATTS, CHARLES	13, Southampton Street, Strand, W.C.

Dip. No.	Date of Election and of Transfer.	FELLOWS.	
2426	1891, Nov. 4	WATTS, SAMUEL LINGARD . . .	Town Hall Buildings, King Street, Manchester.
1693	1889, Nov. 25	WATTS, WILLIAM JOHN . . .	Town Hall Chambers, King Street, Manchester.
1658	1889, Dec. 9	WAY, HENRY JAMES. . . .	{ 102, Lower St. James' Street, Newport, Isle of Wight.
284	1872, May 6	WEALL, JOHN	38, High Street, Watford.
1045	1884, Jan. 14	WEATHERALL, HENRY . . .	22, Chancery Lane, W.C.
700	1882, Jan. 16	WEAVER, WILLIAM, M.I.C.E. .	Town Hall, Kensington, W.
215	1869, Dec. 6	WEBB, GEORGE	Tunstall, Sittingbourne, Kent.
1725	1890, Feb. 10	WEBB, WILLIAM	4, High Street, Croydon.
1478	1888, Apr. 16	WEBSTER, ALEXANDER . . .	{ 100, Highgate, and 9, Cliff Terrace, Kendal Westmoreland.
1659	1889, Dec. 9	WELCH, FREDERICK WILLIAM .	{ 163, North Street, Brighton, and 26, Havelock Road, Hastings.
2128	1891, May 23	WELLS, EDWIN	Barnard Castle, Co. Durham.
1169 {	{ A. '84, May 5 } F. '90, Dec. 8 }	WELLS, WILLIAM HOWLEY . .	Estate Office, Evershot, Dorset.
661	1881, Dec. 19	WELLSTED, WM. H., A.M.I.C.E.	Manor Street, Hull.
744	1882, Feb. 13	WESTBURY, GEORGE HENRY .	The Knoll, Andover, Hants.
88	1868, Jul. 20	WESTBURY, GILES	Andover, Hants.
2045	1891, Mar. 14	WETHERALL, HARRY LANCASTER	Brachlyn, Winchfield, Hants.
1454	1889, Feb. 6	WHALLEY, HENRY SHAW . . .	90, Northgate Street, Chester.
779	1882, Mar. 13	WHARTON, THOMAS GEORGE .	1, Basinghall Street, E.C.
1726	1890, Feb. 10	WHATLEY, FREDERICK ERNEST	Cirencester.
1660	1889, Dec. 9	WHEELER, EDWARD GALTON . .	Alnwick, Northumberland.
1266	1885, Apr. 20	WHITAKER, GEORGE	Westminster Chambers, 9, Victoria Street, S.W.
2427	1891, Nov. 4	WHITE, ALFRED E., A.M.I.C.E.	Town Hall, Hull.
1958	1891, Jan. 17	WHITE, ARTHUR JEFFREY . .	Wrangaton Manor, Ivybridge, South Devon.
1959	1891, Jan. 17	WHITE, CHARLES ALEXANDER .	18, High Street, Dorking, Surrey.
2428	1891, Nov. 4	WHITE, JAMES ALEXANDER . .	18, High Street, Dorking.
745	1882, Feb. 13	WHITE, JOHN.	Warrington, Lancashire.
1774	1890, Mar. 24	WHITE, JOHN.	49, London Road, Sevenoaks, Kent.
2429	1891, Nov. 4	WHITE, WILLIAM HENRY . . .	31, Eldon Street, South Place, Finsbury, E.C.
701	1882, Jan. 16	WHITELEY, CHARLES PERRY . .	82, Queen Street, E.C.
2430	1891, Nov. 4	WHITTINDALE, JAMES	The Poplars, Kenilworth, Warwickshire.
2431	1891, Nov. 4	WHITTON, JOHN WILLIAM . . .	2, St. James's Street, Derby.
2432	1891, Nov. 4	WHYTE, WILLIAM McNICOL . .	103, West Regent Street, Glasgow.
350	1874, Apr. 27	WIDNELL, FREDERICK GRAINGER	13, Parliament Street, S.W.
1790	1890, Apr. 14	WIGLEY, GEORGE DAVES EDWARD	Winslow, Bucks.
234 {	{ A. '70, Feb. 7 } F. '76, Nov. 13 }	WIGRAM, JOHN	South Collingham, Newark, Notts.
2492	1892, Feb. 26	WILBRAHAM, EDWARD SIDNEY .	Estate Office, St. Giles, Salisbury.
2046	1891, Mar. 14	WILDE, WILLIAM	Brockett House, Sharrow, Sheffield.
2433	1891, Nov. 4	WILKIN, HORACE MARTIN . . .	King's Lynn, Norfolk.
2434	1891, Nov. 4	WILKINS, WILLIAM	Greenfield Villas, Llanelly, Carmarthenshire.
721	1882, Jan. 30	WILKINSON, GEORGE AYSOUGH	7, Poultry, E.C.

Date of Election and of Transfer.	FELLOWS.	
0 1891, Jan. 17	WILKINSON, GEORGE HERBERT.	7, Poultry, E.C.
6 1884, Dec. 8	WILKINSON, THOMAS . . .	{ 168, North Street, Brighton, and 26, Havelock Road, Hastings.
5 1883, April 2	WILKINSON, WILLIAM . . .	
2 1885, Jan. 12	WILKS, RICHARD . . .	32, Kellett Road, Brixton, S.W.
6 1890, Mar. 10	WILLIAMS, EDWARD . . .	Little Mongeham, near Deal, Kent.
5 1891, Nov. 4	WILLIAMS, GERALD GARNOUS .	City Chambers, 82, New Street, Birmingham.
2 1890, Nov. 22	WILLIAMS, HERBERT WALTER .	St. John's Mount, Brecon, South Wales.
4 1884, Feb. 11	WILLIAMS, JOHN . . .	Rochester House, Park Road, Winchester, Hants.
8 { A. '75, Jan. 18 } F. '90, Feb. 24 }	WILLIAMS, LEONARD JAMES .	Gwernhefin, Bala, North Wales.
0 1870, May 9	WILLIAMS, STPH. W, F.R.I.B.A.	118, Queen Victoria Street, E.C.
8 { A. '80, Jan. 19 } F. '88, Apr. 16 }	WILLIAMS, WILLIAM HERBERT.	Rhayader, Radnorshire.
29 1891, May 23	WILLIAMS, WILLIAM LLOYD .	8, Gloucester Terrace, Hyde Park, W.
3 1889, Feb. 25	WILLMOT, GEORGE DYOTT . .	24, High Street, Carnarvon.
7 { A. '82, Apr. 24 } F. '87, May 9 }	WILLMOT, JOHN . . .	6, Waterloo Street, Birmingham.
4 1883, Dec. 17	WILSON, SIR JACOB . . .	6, Waterloo Street, Birmingham.
1 1891, Jan. 17	WILSON, STEPHEN BARTON . .	{ 15, Great George Street, S.W. and Chillingham, Alnwick.
2 1881, Dec. 19	WILSON, THOMAS SILK . . .	
2 1891, Jan. 17	WILSON, WILLIAM HENRY . .	10, Basinghall Street, E.C.
0 { A. '84, Apr. 21 } F. '88, Mar. 19 }	WINDER, GEORGE ALEXANDER.	Albert Square, Manchester.
3 1891, Nov. 4	WINN, THOMAS . . .	25, Fountain Street, Manchester.
3 1891, Jan. 17	WINTERTON, HARRY JOHN CAM- PION . . .	{ Escot Estate Office, Fairmile, Ottery St. Mary, Devon.
4 1891, Jan. 17	WINTERTON, WILLIAM MOXON .	
7 1891, Nov. 4	WISE, CHARLES DACRES . . .	5, Park Lane, Leeds.
7 1891, Mar. 14	WITHALL, LATHAM A., F.R.I.B.A.	{ St. Mary's Chambers, Lichfield.
8 1868, Jun. 15	WITHALL, RICHARD AUGUSTUS .	
0 1891, May 23	WOLFENDEN, THOMAS . . .	Walton Warren, Burton-on-Trent.
8 1891, Nov. 4	WOLLEY, THOMAS JOHN . . .	Toddington, Wincheomb, Glos.
9 { A. '90, Nov. 22 } F. '91, May 25 }	*WOOD, CHARLES BRUCE . . .	Suffolk House, Laurence Pountney Hill, E.C.
0 1868, Jun. 15	WOOD, FREDERICK . . .	29, Great George Street, S.W.
9 { A. '79, Mar. 17 } F. '91, July 6 }	WOOD, HENRY . . .	54, Hall Street, Southport, Lancashire.
7 1888, Mar. 19	WOOD, JOHN DANIEL . . .	Clungunford Estate Office, Aston-on-Clun, Salop.
8 1885, Feb. 23	WOOD, WILLIAM . . .	37, Irene Road, Parson's Green, S.W.
8 1891, Mar. 14	WOOD, WILLIAM . . .	34, Regency Square, Brighton.
3 1890, Nov. 22	WOODBIDGE, STEPHEN, JUN. .	97, Gresham Street, E.C.
4 1890, Nov. 22	WOODFORDE, LIONEL BURNET .	19, Mount Street, W.
5 1882, Dec. 18	WOODHAMS, JAMES . . .	Ifield Court, Crawley, Sussex.
7 1890, Nov. 22	WOODHEAD, WILLIAM BOOTH .	Cooling Castle, near Rochester, Kent.
1 1891, May 23	WOODMAN, THOMAS FOSTER .	210, High Street, Brentford.
3 1881, Dec. 19	WOODS, HENRY . . .	Merton, Thetford, Norfolk.

Dip. No	Date of Election and of Transfer.	FELLOWS.	
2132	1891, May 23	WOODS, THOMAS	4 and 5, Church Parade, Hounslow, Middlesex
2439	1891, Nov. 4	WOODTHORPE, E., F.R.I.B.A. . .	1, Circus Place, E.C.
711	{ A. '82, Jan. 16 } { F. '90, Apr. 14 }	WOODWARD, WM., A.R.I.B.A. . .	7, Duke Street, Adelphi, W.C.
2440	1891, Nov. 4	WOOLER, WALTER HERNAMAN . .	Waterloo Street, Weston-super-Mare.
2049	1891, Mar. 14	WOOLLEY, JOHN TUTRON . . .	Salisbury, Wilts.
613	1881, Feb. 21	WOOLLEY, REGINALD.	} Silver Street, Lincoln, and South Collingham Newark, Notts.
427	{ A. '76, Feb. 7 } { F. '80, Nov. 8 }	WOOLLEY, THOMAS CECIL SMITH	South Collingham, Newark, Notts
267	{ A. '71, Nov. 13 } { F. '77, Jan. 29 }	WOOLLEY, WILLIAM EDWARD . .	Loughborough, Leicestershire.
1876	1890, Nov. 22	WORDSWORTH, ROBERT WALTER	Whitemoor, Ollerton, Notts.
680	{ A. '81, Dec. 19 } { F. '87, Jan. 10 }	WREATHALL, ROBERT T. . . .	{ The Vestry Hall, St. Martin's Place, Trafalgar Square, W.C., and Manor House, Greenhill Harrow.
2441	1891, Nov. 4	WRENNALL, WILLIAM	9, Harrington Street, Liverpool.
2442	1891, Nov. 4	WRIGHT, CHARLES WILLIAM . .	Wollaton, Notts.
2443	1891, Nov. 4.	WRIGHT, GEORGE THOMAS GREEN	3, Great Winchester Street, E.C.
1200	1884, May 26	WRIGHT, JAMES	Irongate, Derby.
2444	1891, Nov. 4	WRIGHT, JAMES	Rawcliffe, near Selby, Yorkshire.
1521	1888, Dec. 10	WRIGHT, THOMAS	Post Office Terrace, Cambridge.
288	1872, Apr. 22	WRIGHT, WILLIAM	Wollaton, Nottinghamshire.
		(Member of Council)	
292	1872, Dec. 9	WRIGHT, WILLIAM EDWARD . .	King's Lynn, Norfolk.
1749	1890, Feb. 24	WRIGHTSON, ARTHUR FREDERICK	26, Budge Row, E.C.
722	1882, Jan. 30	WYATT, OLIVER NEWMAN . . .	East Street, Chichester.
1120	1884, Mar. 10	WYLEY, HENRY JAMES	Bridgnorth, Shropshire.
1227	1884, Dec. 8	WYLEY, WILLIAM JOHN	2, School Chambers, Shrewsbury.
2445	1891, Nov. 4	YORK, HENRY	Local Board Offices, Town Hall, Teddington.
599	{ A. '81, Jan. 10 } { F. '91, Jan. 5 }	YOUNG, ANDREW	London County Council, 17, Spring Gardens, S.W.
2493	1892, Feb. 26	YOUNG, CHARLES.	Alton, Hants.
1830	1890, May 29	YOUNG, DOUGLAS	51, Coleman Street, E.C.
2446	1891, Nov. 4	YOUNG, EDWARD H., A.M.I.C.E.	Central Chambers, South Castle Street, Liverpool
2473	{ A. '91, Nov. 4 } { F. '92, Nov. 14 }	*YOUNG, HARRY AUSTIN LINDSAY	Bold Hall, St. Helens, Lancashire.
524	{ A. '78, Dec. 9 } { F. '91, Feb. 2 }	YOUNG, MORGAN HENRY	17, Southampton Street, Bloomsbury Square, W.C.
2447	1891, Nov. 4	YOUNG, OSWALD WILLIAM . . .	Mersey Docks and Harbour Board, Liverpool.
2448	1891, Nov. 4	YOUNG, THOMAS	67 and 69, Chancery Lane, W.C.

Total number of Fellows, 1,626.

Professional Associates

The names of those Professional Associates who have qualified for the Class by Examination are distinguished thus *

The names of those Professional Associates who have further qualified by Examination for, but have not yet been transferred to, the Class of Fellows, are distinguished thus †

Date of Election.

Number.				
149	1891, Nov. 4	*† ABRAMS, BENJAMIN PERCY	{	Dudley Mansion, 29, Abbey Road, St. John's Wood, N.W.
503	1892, Nov. 28	*† AMOS, FRANK		1, Parade, Canterbury, Kent.
577	1890, Nov. 22	* ARMYTAGE, FRANCIS REGINALD.		Windsor House, Shrewsbury.
230	1885, Dec. 7	* ARNOTT, JOHN		Church Street, Woodbridge, Suffolk.
750	1890, Feb. 24	*† ASSITER, HARRY G.		207, Brixton Road, S.W.
578	1890, Nov. 22	*† AYLEN, CECIL HUGH		7, Tavistock Place, W.C.
281	1885, Dec. 7	* BAKER, CECIL CAUTLEY.		21, Bedford Row, W.C.
553	1879, Dec. 8	BALDING, ALBERT		Barkway, Herts.
522	1888, Dec. 10	* BALL, JAMES BENJAMIN	{	Engineer's Office, Great Northern Railway, King's Cross, N.
111	1884, Feb. 25	BALLARD, WILLIAM WASHINGTON		9, Craig's Court, Charing Cross, S.W.
879	1890, Nov. 22	*† BANCROFT, FREDK. HERBERT		Kay's Chambers, 2 nd , Cooper Street, Manchester.
880	1890, Nov. 22	* BARCLAY, THOMAS		Arnccliffe, Moseley, Birmingham.
1504	1892, Nov. 28	* BARKER, GEOFFREY LIONEL		Llyndir, Wrexham.
247	1885, Jan. 26	* BARRATT, HARRY	{	Hill View, Corser Street, Stourbridge, Worcester-shire.
1409	1887, Dec. 19	* BATEMAN, ARTHUR CHARLES		Oriel House, Witney, Oxon.
622	1881, May 16	BEADEL, HENRY GRANT		97, Gresham Street, E.C.
1881	1890, Nov. 22	*† BEADEL, MAURICE FREDERICK		97, Gresham Street, E.C.
2451	1891, Nov. 4	* BEEASLEY, JOHN ARTHUR LLEWELLYN	{	Kirby Muxloe, Leicester.
1594	1889, Feb. 25	* BELCHER, EDWARD JOHN		Wantage, Berks.
1662	1889, Dec. 9	*† BELLINGHAM, ARCHIBALD TURNER		Dovers Green, Reigate, Surrey.
2505	1892, Nov. 28	*† BEVEN, SEPTIMUS		56, King Edward Road, Hackney, N.E.
383	1875, Feb. 1	BIDWELL, SHELFORD		Estates Office, Drayton Manor, Tamworth.
1283	1885, Dec. 7	* BLUNDELL, HARRY, A.M.I.C.E.	{	Manchester, Sheffield, and Lincolnshire Railway, Engineer's Office, Manchester.
1158	1881, May 5	BLUNT, HERBERT ARTHUR SCAWEN	{	Estate Office, Slane Castle, Co. Meath, Ireland.
1882	1890, Nov. 22	*† BODY, ARTHUR, A.R.I.B.A.		15, Princess Square, Plymouth.
1159	1884, May 5	BOND, FREDERICK GEORGE		Old Bank House, Ipswich.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1881	1886, Dec. 6	*BOUSFIELD, EDWIN VAUGHAN DAVENPORT	99, Gresham Street, E.C.
2183	1891, May 23	*BOWDEN, ERNEST NEWTON	14, Ridgefield, John Dalton Street, Manchester
2134	1891, May 23	*BOWDEN, JOHN FRIENDSHIP	3, Gloucester Villas, Newport, Barnstaple, Devon
1523	1888, Dec. 10	*BOWER, ARTHUR WENTWORTH CHIVERS	39, George Street, Worksop.
1524	1888, Dec. 10	*BRADY, RALPH HOLLINSHED	17, Warren Street, Stockport, Cheshire.
1965	1891, Jan. 17	*BREVETOR, THOMAS	Fillmore, Ventura County, California, U.S.A.
1663	1889, Dec. 9	*BRIDGFORD, LEO APPLETON	28, Cross Street, Manchester.
1374	1887, Feb. 21	*BRIGGS, JOHN	London County Council, Spring Gardens, S.W.
2506	1892, Nov. 28	*BRINKWORTH, ROBERT EDWIN	Brookfield, Chippenham, Wilts.
1073	1884, Jan. 28	BROWN, ALEXANDER	Home Farm, Hothfield, Ashford.
1664	1889, Dec. 9	*BROWN, ARTHUR MACDONALD	Tring, Herts.
2507	1892, Nov. 28	*BROWN, GEORGE TURVILLE	34, Great George Street, S.W.
847	1882, Dec. 18	BROWN, WILLIAM ARTHUR	146, Goswell Road, E.C.
1410	1887, Dec. 19	*BROWN, WILLIAM EDWARD	Reading Villa, Denmark Road, Watford, Herts.
2136	1891, May 23	*BUCKLAND, SIDNEY CRAWFORD	Windsor, Berks.
944	1888, May 21	BUCKLAND, WILLIAM THOMAS	9, Whitehall Place, S.W.
1691	1890, Jan. 6	*BULBECK, GEORGE	22, Sussex Street, S.W.
2508	1892, Nov. 28	*BURDER, REGINALD EDWARD CAMPBELL	Ham Rectory, Hungerford, Berks.
1412	1887, Dec. 19	*BUSS, FLEETWOOD GEORGE WILLIAM	City Bank Chambers, 41, Theobald's Road, Bedford Row, W.C.
1160	1884, May 5	BUTTERWORTH, JOSIAH	Mansfield, Notts.
1334	1886, Dec. 6	*CAMPBELL, COLIN	Bretby, near Burton-on-Trent.
799	1882, Apr. 24	CARD, HENRY	North Street, Lewes, Sussex.
249	1870, Dec. 12	CARDALL, FREDERIC WILLIAM	9, Whitehall Place, S.W.
2452	1891, Nov. 4	*CARR, THOMAS EDMUND	Moor Monkton Rectory, York.
1413	1887, Dec. 19	*CARTER, ALFRED PRESLEY	185, Tottenham Court Road, W.
2137	1891, May 23	*CASTLE, HAROLD	9, Canterbury Road, Oxford.
1572	1889, Jan. 28	*CHALCRAFT, HENRY TERRELL	6, Bishopsgate Street Without, E.C.
1006	1888, Dec. 17	CHAPMAN, VAUGHAN GODFREY ST. JOHN	82, Queen Street, E.C.
1525	1888, Dec. 10	*CHENEY, EDWIN JOHN	Daydon Lodge, Bruton, Somerset.
2509	1892, Nov. 28	*CHILD, CHARLES, JUN.	Dalgan Park, Shrule, Tuam, Co. Mayo, Ireland
1526	1888, Dec. 10	*CHILD, EDMUND HERBERT	47, Bernard Street, Russell Square, W.C.
426	1876, Feb. 7	CLAYDEN, WALTER	6, Moorgate Street, E.C.
1285	1885, Dec. 7	*COALES, HERBT. G., A.M.I.C.E.	Market Harborough Local Board Offices, Market Harborough.
1885	1890, Nov. 22	*COBHAM, GEORGE WILLIAM	3, Edwin Street, Gravesend, Kent.
1665	1889, Dec. 9	*COLBOURN, HENRY JAMES	6, Russell Street, Reading.
1202	1884, May 26	COLLIER, ARTHUR CHARLES	4, Frederick's Place, E.C.

‡ Special Forestry Certificate.

P. o.	Date of Election.	PROFESSIONAL ASSOCIATES.	
31	1890, May 29	*COLLYER, DANIEL WILLIAM	Sharples Hall, Bolton-le-Moors, Lanc.
10	1892, Nov. 28	*COOKE, LIONEL	20, New Bridge Street, E.C.
20	1874, Jan. 5	COOKE, WILLIAM GEORGE	35, Walbrook, E.C.
66	1891, Jan 17	*COPE, HENRY JAMES	202, Clapham Road, S.W.
47	1882, Feb. 13	COWPER, RICHARD WILLIAM	81, High Street, Sittingbourne, Kent.
22	1870, Jan. 10	CRAWLEY, WILLIAM JEEVES	Sayesbury, Sawbridgeworth, Herts.
54	1891, Nov. 4	*CRAWSHAY, LIONEL RUTTLEDGE	8, Machen Place, River Side, Cardiff.
15	1881, Mar 21	CRESSWELL, JOHN THEODORE ROSS	} 9, Whitehall Place, S.W.
55	1891, Nov. 4	*CRIER, JOHN THOMAS	
11	1892, Nov. 28	*CROOKES, CHARLES REGINALD	Melrose, Church Road, Richmond.
35	1886, Dec. 6	*CROSLAND, WALTER	Estate Office, Buscot Park, Faringdon, Berks.
38	1891, May 23	*CROSS, ARNOLD CHARLES MARTIN	Victoria Chambers, 9, Victoria Street, S.W.
91	1883, Feb. 12	CROSS, JOHN	80, Cheapside, E.C.
48	1889, Jan. 4	*CROUCH, JAMES LEONARD	3, Guildhall Chambers, 33, Basinghall Street, E.C.
37	1879, Mar. 17	CUDLIPP, WILLIAM	33, Poultry, E.C.
77	1888, Jan. 29	CUMBERBATCH, CARLTON PARRY	9, Whitehall Place, S.W.
45	1883, May 21	DAFFARN, THOMAS ALFRED	6, Spring Gardens, S.W.
39	1875, Apr. 26	DASHWOOD, FREDERICK LOFTUS	Kirtlington, Oxford.
512	1892, Nov. 28	*DAVIES, DAVID THOMAS	31, Linton Street, Islington, N.
139	1891, May 23	*DAVIS, NEVILLE B., A.M.I.C.E.	Waterworks Office, Leicester.
008	1883, Dec. 17	DAWSON, WALTER HENRY	Forster Estate Office, Southend, Catford, S.E.
513	1892, Nov. 28	*DEEENHAM, FRANK BRIDGE- WATER	} 80, Cheapside, E.C.
140	1891, May 23	*DEBENHAM, HORACE BENTLEY	
667	1889, Dec. 9	*DENDY, WILLIAM COOPER	46, Fordwych Road, Brondesbury, N.W.
528	1888, Dec. 10	*DINON, FRANCIS EDWARD	{ Local Board Offices, Bamber Bridge, Walton-le- Dale, near Preston.
748	1882, Feb. 13	DREW, ALLEN	
692	1890, Jan. 6	*DUDLEY, EDGAR	The Yews, Kenley, Surrey.
229	1884, Dec. 8	*DUNNING, BERNARD SIMON	51, Denbigh Street, S.W.
202	1869, Jun. 28	EASTON, EDWARD	9, Delahay Street, S.W.
514	1892, Nov. 28	*ELLIS, ALBERT EDWARD	Bedford Chambers, Exeter, Devon.
887	1890, Nov. 22	*ELLIS, FRANCIS, JUN.	Trafford Park, Patricroft, near Manchester.
2515	1892, Nov. 28	*EVERED, GILLIEBRAND ELWIN	3, Guildhall Chambers, 33, Basinghall Street, E.C.
2516	1892, Nov. 28	*EVERETT, ARTHUR SHERMAN	19, Homefield Road, Wimbledon.
609	1881, Feb. 7	FEW, HARRY GARRARD	3, Upper Richmond Road, Putney, S.W.
517	1892, Nov. 28	*FINN, FRED.	2, Serpentine Road, Sevenoaks, Kent.
466	1891, Nov. 4	*FINN, HERBERT ARCHIBALD	Sole Street House, near Faversham, Kent.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1123	1884, Mar. 10	FITNESS, JOHN FRANCIS . . .	80, Cheapside, E.C.
916	1883, April 2	FLETCHER, GEORGE RIVERS . .	2, Basinghall Street, E.C.
2518	1892, Nov. 28	*FORD, SOLOMON	21, New Bridge Street, E.C.
1888	1890, Nov. 22	*FORREST, WILLIAM	Windsor Estate Office, St Fagans, Cardiff.
1775	1890, Mar. 24	*FORSTER, WALTER HILL . . .	Queen Street, Tomblaud, Norwich.
2519	1892, Nov. 28	*FOSTER, JAMES HERBERT FURMEDGE	} 33, Poultry, E.C.
2457	1891, Nov. 4	*FRANKLIN, BENJAMIN BELGROVE	Holly Walk, Luton, Beds.
1967	1891, Jan. 17	*FRASER, WILLIAM	209, St. Vincent Street, Glasgow.
1693	1890, Jan. 6	*GALSWORTHY, VINCENT SOMERS.	8, Queen's Gate, Hyde Park, W.
2520	1892, Nov. 28	*GARDNER, GILBERT	3, Milton Villas, The Vine, Sevenoaks. Kent.
1889	1890, Nov. 22	*GARRARD, ARTHUR NORMAN . .	66, Cannon Street, E.C.
702	1882, Jan. 16	GARROD, HERBERT JAMES . . .	Cheveley, Newmarket.
2521	1892, Nov. 28	*GERMAN, GEORGE, JUN.	Estate Offices, Ashby-de-la-Zouch.
1890	1890, Nov. 22	*GODDARD, ALEXANDER.	Knighton Spinneys, Leicester.
1386	1887, Mar. 21	*GOLIGHTLY, CHARLES HUGH . .	West Parley Rectory, Wimborne, Dorset.
956	1883, May 25	GORE, WILLIAM JOLL	22, Conduit Street, W.
1096	1884, Feb. 11	GOW, JAMES	9, Whitehall Place, S.W.
1669	1889, Dec. 9	*GRANT, JOSEPH	Avisford, Upper Addiscombe Road, Croydon.
1891	1890, Nov. 22	*GREEN, ALEXANDER ERNEST . .	Kingsdown Lodge, 10, The Common, Ealing, W.
2141	1891, May 23	*GREEN, EDMUND HORACE	28 and 29, St. Swithin's Lane, E.C.
1012	1883, Dec. 17	GREEN, JAMES HENRY TOWNSEND	22, Chancery Lane, W.C.
1418	1887, Dec. 19	*GREEN, THOMAS JOHN	1, Surrey Villas, Sevenoaks, Kent.
1230	1884, Dec. 8	*GREENOP, EDWARD	74, Bonham Road, Brixton Rise, S.W.
2522	1892, Nov. 28	*GRIGGS, HY. JENNER, A.R.I.B.A.	Easton Lodge, Tressillian Crescent, St. John's. S.E.
1532	1888, Dec. 10	*GRIMES, RALPH FEARON	{ Thurleigh House, 6, Nightingale Lane, Clapham Common, S.W.
1076	1884, Jan. 28	GRIMWADE, HENRY	Colchester, Essex.
1550	1889, Jan. 14	*GUNTER, JAMES	Estate Office, Glasbury, Radnorshire.
1670	1889, Dec. 9	*HADLEY, FRANK	16, Bennett's Hill, Birmingham.
2523	1892, Nov. 28	*HAIGH, THOMAS FREDERICK . . .	Old Bank House, Butter Market, Ipswich.
2524	1892, Nov. 28	*HALES, ARTHUR JOHN	48, Hillmarton Road, N.
1281	1884, Dec. 8	*HALKYARD, WILLIAM REDFORD . .	Oakfield Styal Road, Wilmslow, Cheshire.
1179	1884, May 19	HALL, CHARLES PELL	Park Farm Office, Woburn, Beds.
1338	1886, Dec. 6	*HALTON, HARRY RUSSELL	199, Church Street, Toronto, Canada.
770	1882, Feb. 27	HAMILTON, JOHN PAYNTER	64 and 65, Coleman Street, E.C.
2143	1891, May 23	*HAMPTON, GEORGE FREDERICK WILLIAM	} 1, Cockspur Street, S.W.
2525	1892, Nov. 28	*HANKINSON, FRANCIS HENRY . .	Eastbury, Surrey Road, Bournemouth, Hants.
1419	1887, Dec. 19	*HARDING, FREDERICK ALLCROFT	60, Queen Victoria Street, E.C.

P. O.	Date of Election.	PROFESSIONAL ASSOCIATES.	
14	1881, Feb. 21	HARPER, EDGAR JOSIAH . . .	{ Estate Office, London County Council, Spring Gardens, S.W.
72	1889, Dec. 9	*HASLAM, DRYLAND, JUN. . .	Warren House, Caversham, Reading.
68	1891, Jan. 17	*HAYWARD, FREDERICK GEORGE	Market Square, Dover, Kent.
287	1885, Dec. 7	*HEBBLETHWAITE, CHAS. HENRY	235, Alpha Place, Norwich Road, Ipswich.
114	1883, Dec. 17	HEBDEN, GEORGE RADCLIFFE .	66, Cannon Street, E.C.
588	1880, Dec. 13	HEDGER, ARTHUR CONSTANTINE	44, Charing Cross, S.W.
526	1892, Nov. 28	*HELICAR, GEORGE THOMAS .	1, John Campbell Road, Stoke Newington Road, N.
573	1889, Jan. 28	*HENDERSON, HARRY GILBERT .	Franche Villa, Franche, Kidderminster.
353	1887, Jan. 10	*HENDERSON, RICHARD . . .	Portland Estate Office, Kilmarnock.
928	1883, April 16	HENRY, EDWARD HUGH. . .	63, High Street, Clapham, S.W.
850	1882, Dec. 18	HEWITT, WILLIAM	Penn Grove, Aylstone Hill, Hereford.
948	1883, May 21	HICKS, STANLEY	10, Lincoln's Inn Fields, W.C.
339	1886, Dec. 6	HILL, ALFRED	Burma Club, Rangoon.
1015	1883, Dec. 17	HINCHLIFFE, JOHN, JUN. . .	Bullhouse Hall, Penistone, Sheffield.
892	1890, Nov. 22	*HODGKINSON, JAMES HENRY .	2, Ashlyne, Mossley Road, Ashton-under-Lyne.
180	1884, May 19	HODSOLL, WILLIAM, JUN. . .	{ 188, Parrock Street, Gravesend, and Farningham, Kent.
908	1883, Feb. 26	HOLBECH, EMILIAN HENRY .	Weston Cottage, Park Road, Loughborough.
2458	1891, Nov. 4	*HOLLIS, HERBERT	Potosi, Battè P.O., Jamaica.
2459	1891, Nov. 4	*HOLLIS, RALPH	Springfield, Skirlaugh, Hull.
879	1883, Jan. 29	HOLMES, JAMES THOMAS . .	97, Gresham Street, E.C.
1595	1889, Feb. 25	*HOMAN, HUBERT FRANKLIN .	146 and 147, Eastgate, Rochester, Kent.
1181	1884, May 19	HOOPER, ALFRED FREDERICK .	1, Laura Villas, London Road, Andover, Hants.
1446	1888, Jan. 23	*HOOPER, CECIL HENRY . . .	Highlands, Swanley, Kent
866	1883, Jan. 15	HOWELL, ERNEST JOHN . . .	116, Cromwell Road, S.W.
1893	1890, Nov. 22	*JNNES, GILBERT PLANTAGENET MITCHELL	{ The Farm, Preston Hall, Aylesford, Kent.
2527	1892, Nov. 28	*JARMAN, FRANK WILMOT . . .	4, High Street, Croydon.
550	1879, Nov. 24	JESSETT, CHARLES	62, Old Broad Street, E.C.
2460	1891 Nov. 4	*JESSETT, CHARLES EDWARD VERNON	{ 109, Norroy Road, Putney, S.W.
2528	1892, Nov. 28	*JOHNS, PERCY	Surveyor's Office, Town Hall, Torquay, Devon.
2529	1892, Nov. 28	*JOHNSON, BERNARD MARR . .	9, Whitehall Place, S.W.
226	1870, Jan. 24	JOHNSTON, ANDREW	97, Gresham Street, E.C.
1420	1887, Dec. 19	*JOHNSTON, WALTER HENRY .	County Offices, Auditors' Department, Preston.
1375	1887, Feb. 21	*JONAS, SAMUEL MARSHALL . .	27, Market Hill, Cambridge.
1015	1883, Dec. 17	JORDAN, GEORGE HENRY . . .	16, Whitehall Place, S.W.
2461	1891, Nov. 4	*JOYCE, HARRY WARD	9, Tipping Street, Stafford.
1323	1886, May 17	*JULL, WILLIAM VINCENT . . .	St. Leonard's, Beverley Road, Anerley, S.E.

† Special Sanitary Science Certificate.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1894	1890, Nov. 22	*KAY, WALTER ROBERT . . .	Mount Sion House, Bury, Lancashire.
1077	1884, Jan. 28	KERR, ARTHUR HERBERT . . .	Blake Street, York.
1887	1887, Mar. 21	*KING, WILLIAM ISAAC . . .	The Grange, Highgate, N.
2530	1892, Nov. 28	*KNIGHT, GEORGE EDWARD . . .	{ Springfield, Crystal Palace Park Road, Syde- ham, S.E.
1969	1891, Jan. 17	*LANSDOWN, GEORGE ARTHUR . . .	5 and 7, Warwick Street, Charing Cross, S.W.
2051	1891, Mar. 14	*LARKIN, RICHARD WEBSTER . . .	Cowley House, Cavendish Road, Balham, S.W.
2494	1892, Feb. 26	*LAWLEY, FREDERICK WILLIAM . . .	165, Strand, W.C.
1970	1891, Jan. 17	*LEANING, HENRY JOHN . . .	90, Grove Lane, Camberwell, S.E.
441	1876, Apr. 8	LEE, GEORGE CANSFIELD . . .	North Eastern Railway, York.
1854	1887, Jan. 10	*LEE, JOHN WILFRID . . .	Vestry Hall, Hampstead, N.W.
2144	1891, May 23	*LEVERTON, FRANK JOHN WAL- DEMAR	{ H.M. Office of Works, Petergate, Nottingham.
1971	1891, Jan. 17	*LEWIS, ARTHUR LLEWELYN . . .	12, Armingier Road, Shepherd's Bush, W.
1143	1884, Apr. 21	LIGHTFOOT, JOHN GEORGE . . .	9, Whitehall Place, S.W.
2531	1892, Nov. 28	*LITTLE, HENRY	Beaumont Terrace, Spennymoor, Co. Durham.
2462	1891, Nov. 4	*LONGSDON, ERNEST MOREWOOD . . .	Town Hall, Bakewell.
1183	1884, May 19	LOVESAY, WILLIAM	4, Frederick's Place, E.C.
1855	1887, Jan. 10	*LOWE, CHARLES ROBERT . . .	95, Park Street, Grosvenor Square, W.
2532	1892, Nov. 28	*LUCAS, JOHN ARCHIBALD . . .	Guildhall Chambers, High Street, Exeter.
489	1877, May 14	LUCAS, JOSEPH	21, Defoe Road, Tooting Graveney, S.W.
1876	1889, Dec. 9	*LUMLEY, JULIAN ARTHUR . . .	35, St. James' Street, S.W.
1204	1884, May 26	LYNCH, JAMES HENRY	302, Regent Street, W.
1144	1884, Apr. 21	MCCALLUM, PETER SERVICE . . .	Midland Railway, Derby.
1555	1889, Jan. 14	*MARTIN, HEBER GAMBLING . . .	Highfield House, Littleport.
1677	1889, Dec. 9	*MASON, CHARLES WILLIAM HAYLEY . . .	{ Surveyor's Office, South Eastern Railway, London Bridge, S.E.
2533	1892, Nov. 28	*MAUGHAN, JOHN	Estate Office, Jervaulx Abbey, Bedale, Yorks.
1308	1886, Feb. 22	*MEAD, JOHN HENRY	9, Whitehall Place, S.W.
2534	1892, Nov. 28	*MELLENFIELD, JAMES HENRY . . .	45, Cazenove Road, Stamford Hill, N.
1447	1888, Jan. 23	*MELROSE, FRANK	4, Whitehall, S.W.
2535	1892, Nov. 28	*MENZIES, ROBERT	Estate Office, Haverland, Norwich.
1145	1884, Apr. 21	MERRETT, JAMES	9, Whitehall Place, S.W.
1972	1891, Jan. 17	*MERRY, ARTHUR WALKER . . .	Market Place, Wallingford.
2536	1892, Nov. 28	*MEW, ROBERT HEATH	Vectis, Gloucester Road, Redhill, Surrey.
2537	1892, Nov. 28	*MILLER, GEORGE FREDERICK . . .	Town Hall, Hastings.
752	1882, Feb. 13	MILNES, ROBERT, JUN.	{ St. Ann's, Alpha Road, The Elms, Ramsgate Kent.
1973	1891, Jan. 17	*MOLYNEUX, HERBERT ERNEST . . .	6, Bridge Terrace, Newton Abbot, South Devon.
1534	1888, Dec. 10	*MORGAN, ALFRED WALKER . . .	{ Engineer-in-Chief's Office, Survey Department Spencer Telegraph and Railway Station, Melbourne, Australia.

Date of Election. PROFESSIONAL ASSOCIATES.

1892, Nov. 28	*MORRIS, RICHARD PERCIVAL	44, Inderwick Road, Stroud Green, N.
1892, Nov. 28	*MORRISH, HUGH KENNETH	141, Tulse Hill, S.W.
1891, Nov. 4	*MOSES, HENRY	34, South Audley Street, W.
1889, Dec. 9	*MUIR, JAMES	The Yorkshire College, Leeds.
1892, Nov. 28	*NEWMAN, SAMUEL FRANK	33 & 34, Savile Row, W.
1891, Jan. 17	*NOCKOLDS, ALFRED GEORGE	Castle Hill House, Saffron Walden, Essex.
1889, Jan. 14	*NOCKOLDS, MARTIN CHARLES HUBERT	Saffron Walden, Essex.
1884, Mar. 10	NORRIS, EDWARD JAMES	41, Kennington Park Road, S.E.
1891, Nov. 4	*OAKLEY, CHRISTOPHER PERCIVAL	10, Waterloo Place, S.W.
1891, Jan. 17	*OGDEN, MICHAEL GUY	34, High Street, Wimbledon, Surrey.
1892, Nov. 28	*OUVRY, PETER ARNOLD	East Acton, W.
1892, Nov. 28	*OVENDEN, CHARLES	1, Kelsey Square, Beckenham, Kent.
1882, Mar. 18	PAGE, THOMAS GOWLAND	57, Coleman Street, E.C.
1888, May 25	*PAIN, JAMES	Borough, Micheldever, Hants.
1892, Feb. 26	*PALMER, WILLIAM EDWARD KING	Huntingdon Lodge, New Maldon, Surrey.
1889, Dec. 9	*PARRIS, CHARLES JOHN	Buckhurst, Tunbridge Wells, Kent.
1890, Nov. 22	*PATRIDGE, EDWARD JOHN	7, Crumpsall Villas, Selwyn Court, Richmond, S.W.
1875, May 10	PAYNE, WILLIAM PERCY	Holmesdale, The Park, Nottingham.
1882, Dec. 18	PEACE, ALFRED L., A.M.I.C.E.	Thorne, Doncaster.
1884, Apr. 21	PEARCE, FREDERICK WILLIAM	9, Whitehall Place, S.W.
1884, May 5	PEARCE, WILLIAM JOHN	4, Frederick's Place, E.C.
1890, Nov. 22	*PERKINS, JOSEPH	{ Claverdon, Willow Road, Balsall Heath, Birmingham.
1887, Apr. 18	*PERKS, SYDNEY, A.R.I.B.A.	28, Dover Street, Piccadilly, W.
1888, Dec. 17	PEWTRESS, HERBERT WILMS- HURST	{ 22, Chancery Lane, W.C.
1884, Mar. 10	PHILLIPS, GEORGE CAWKWELL	Mildmay Road, Chelmsford, Essex.
1884, Jan. 28	PHILLIPS, JOHN HENRY	130, Mount Street, Berkeley Square, W.
1888, Jan. 28	*PHILLIPS, WILLIAM DEARLOVE	High Wycombe, Bucks.
1886, Dec. 6	*PHYSICK, WALTER FREDERICK	95, Park Street, Grosvenor Square, W.
1890, Nov. 22	*PINDER, RICHMOND	49, Upper Baker Street, N.W.
1892, Feb. 26	*POCHIN, THOMAS CLEMENT	{ Coventry Road, Market Harborough, Leicester-shire.
1892, Feb. 26	*POGGIO, ELOI JOHN	{ Surveyor's Department, Public Offices, Dyne Road, Kilburn, W.
1891, Jan. 17	*POTTER, HERBERT GEORGE	23, High Street, Hampstead, N.W.
1892, Nov. 28	*PRALL, HERBERT ALEXANDER	62, Coleman Street, E.C.
1890, Nov. 22	*PRALL, HERBERT EDWARD	Joyce Green Farm, Dartford, Kent.

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No. Date of Election. PROFESSIONAL ASSOCIATES.

1343	1886, Dec. 6	*PRATER, THOMAS HERBERT	{ Parlington Estate Office, Aberford, near Leeds Yorkshire.
2544	1892, Nov. 28	*PRICE, RICHARD ARNOLD	2, Clapham Park Road, Clapham Cross, S.W.
1680	1889, Dec. 9	*PUCKRIDGE, PERCIVAL MARTIN	35, Walbrook, E.C.
1694	1890, Jan. 6	*PUNCHARD, FREDERICK BURT	Enville Estate Office, Stourbridge.
1289	1885, Dec. 7	*RAND, JOHN	Estate Agency Offices, Haverhill, Suffolk.
881	1883, Jan. 29	RIGDEN, CHARLES FURNER	Heathlands, Weybridge.
753	1882, Feb. 13	ROBERTS, CHARLES GORDON	42, New Broad Street, E.C.
2498	1892, Feb. 26	*ROBINS, PHILIP SEYMOUR	5, Waterloo Place, S.W.
1423	1887, Dec. 19	*ROBINSON, ALFRED WHITMORE	Eastfield, Leicester.
2467	1891, Nov. 4	*ROBINSON, HENRY HERBERT	34, Heathfield Park, Willesden Green, N.W.
725	1882, Jan. 30	ROBINSON, JAMES THOMAS	7, John Street, Adelphi, W.C.
803	1882, Apr. 24	ROBINSON, MARTIN CATLIN	Wenden, Saffron Walden, Essex.
1130	1884, Mar. 10	ROSE, EDWARD JOSEPH	1, Narham Road, Oxford.
1081	1884, Jan. 28	ROSS, DAVID JAMES, A.M.I.C.E.	Surveyors' Office, Guildhall, E.C.
1695	1890, Jan. 6	*ROWLEY, WILLIAM TAYLOR	Royston, Cambridgeshire.
1901	1890, Nov. 22	*RUDDLE, FRANK J.	London County Council, Spring Gardens, S.W.
1024	1883, Dec. 17	SABIN, JOSEPH HENRY (Professional Associate of Council)	16, Whitehall Place, S.W.
1233	1884, Dec. 8	*SADLER, G.W., Jun., A.R.I.B.A.	Duchy of Lancaster Office, Lancaster Place, W.C.
1424	1887, Dec. 19	*SALT, REGINALD NOWELL	Quarry Place, Shrewsbury.
971	1883, May 25	*SATCHELL, CHARLES	San José, Costa Rica, Central America.
1728	1890, Feb. 10	*SATCHELL, HERBERT A., A.R.I.B.A.	3, Verulam Buildings, Gray's Inn, W.C.
1147	1884, Apr. 21	SAUNDERS, SAMUEL BROWN	{ Estate Office, L. & S. W. Ry., Waterloo Station S.E.
1902	1890, Nov. 22	*SAVILL, EDWIN	39, New Broad Street, E.C.
1148	1884, Apr. 21	SCARLETT, HARRY	Preston House, Firle, Lewes, Sussex.
2545	1892, Nov. 28	*SCOTT, THOMAS	The Rectory, Lavenham, Suffolk.
2468	1891, Nov. 4	*SEDGWICK, RUPERT WILLIAM	38, High Street, Watford.
1729	1890, Feb. 10	*SEELY, FRANK	3, Staple Inn, Holborn, W.C.
1284	1884, Dec. 8	*SEELY, JOHN BASELEY	Atherton Hall, Leigh, near Manchester.
572	1880, Feb. 16	SEXY, JOHN JAMES	London County Council, Spring Gardens, S.W.
1425	1887, Dec. 19	*SHAW, ARTHUR	{ Ramsden Estate Offices, Railway Street, E.C. dersfield.
1149	1884, Apr. 21	SHERRY, NATHANIEL	45, Fenchurch Street, E.C.
858	1882, Dec. 18	SKINGLE, ALFRED	23, Fleet Street, E.C.
2546	1892, Nov. 28	*SKIPPER, HENRY HERBERT	{ Superintending Engineer's Office, H.M. Dockyard, Portsmouth.
1950	1884, Jan. 14	SLADE, ISAAC	36, Queen Street, E.C.
2052	1891, Mar. 14	*SMITH, JAMES	Town Hall, Hackney, E.

Date of Election. PROFESSIONAL ASSOCIATES.

1868, Nov. 9	SMYTH, EDWARD	{ 9, Whitehall Place, and 52, Wiltshire Road, Brixton, S.W.
	<i>(Professional Associate of Council)</i>	
1890, Nov. 22	*SNAILUM, WALTER WADMAN	Market House, Trowbridge, Wilts.
1892, Feb. 26	*SOUTTER, ERNEST	The Paddocks, Guildford, Surrey.
1890, Nov. 22	*SPELMAN, WILLIAM WILTON RIX	Ivy House, Eaton, Norwich.
1892, Nov. 28	*SQUIRE, GERALD ROBERT	4, Albert Square, Manchester.
1888, Jan. 15	STACEY, WILLIAM	80, Cheapside, E.C.
1890, Jan. 6	*STAINTON, FRANCIS CHARLES	6, Great College Street, S.W.
1888, Mar. 19	STENNING, PERCY HAINES	4, Abchurch Yard, E.C.
1882, Jan. 16	STEVENSON, FREDERICK J.	4, Frederick's Place, E.C.
1882, Dec. 4	STOWER, JOSEPH	29, Fleet Street, E.C.
1889, Feb. 11	*STUCKÉ, WM. HENRY, A.R.I.B.A.	1, Park View, Tivoli, Cheltenham.
1884, Dec. 8	*STURGE, THEODORE	34, Corn Street, Bristol.
1886, Jan. 11	*STURGESS, JOHN MOORE	{ Penshurst Park, near Tunbridge, Kent, and 23, Cockspur Street, Charing Cross, S.W.
1890, Jan. 27	*STURLEY, ARTHUR DYSON	55, Marquess Road, Canonbury, N.
1891, Jan. 17	*SUMMERFIELD, JOSEPH CHARLES	Stafford Villa, Garlies Road, Forest Hill, S.E.
1869, Jul. 26	TAYLOR, GEORGE	{ Hillside House, Turner's Hill, Crawley, Sussex, and 17, Abchurch Lane, E.C.
1892, Nov. 28	*TAYLOR, HARRY WILLIAM	Surveyor's Office, Town Hall, Newmarket.
1891, Nov. 4	*TEMPLE, FREDERICK WILSON	27, Sandgate Road, Folkestone.
1892, Nov. 28	*THOMAS, EDWARD MORGAN DAW- SON	{ 41, Gay Street, Bath.
1883, Dec. 17	THOMPSON, ALFRED	{ Estate Department, South Eastern Railway, London Bridge, S.E.
1892, Feb. 26	*THURGOOD, ALBERT EDWARD	50, High Street, Guildford, Surrey.
1884, Feb. 11	THURGOOD, ERNEST CHARLES	27, Chancery Lane, W.C.
1888, Dec. 10	*TILLY, HUBERT DOUGLAS	Hildesheim, Maidenhead, Berks.
1892, Nov. 28	*TORY, JOHN EDWARD	29, Fleet Street, E.C.
1891, Jan. 17	*TOWNSEND, GEORGE JAMES	{ London County Council, 40, Craven Street, Strand, W.C.
1891, Nov. 4	*TUCKETT, PERCIVAL FOX	2, Basinghall Street, E.C.
1884, Jan. 14	TUDOR, EDWARD CHARLES BU- CHANAN	{ West House, Booth Ferry Road, Goole, York- shire.
1887, May 23	*TURNER, PERCY	7, Lower Brook Street, Ipswich, Suffolk.
1890, Jan. 6	*TYLER, JAMES WILLIAM	Elm Villa, Trinity Road, Upper Tooting, S.W.
1884, May 5	UDNY, AUGUSTUS CHARLES	142, Springfield Road, Brighton.
1889, Feb. 25	*VALE, HENRY	25, Darlington Street, Wolverhampton.
1892, Nov. 28	*VENNING, ALFRED JOHN MEY- BOHN	{ Bruern Grange, Chipping Norton, Oxon.
1890, Nov. 22	*VERITY, ERNEST GEORGE	51, Golden Square, W.

Dip. No.	Date of Election.	PROFESSIONAL ASSOCIATES.	
1464	1888, Feb. 20	*WADE, HENRY	10, Pitt Street, Barnsley.
1699	1890, Jan. 6	*WAIN, GEORGE SPARROW	14, Bell Yard, Temple Bar, W.C.
576	1880, Mar. 1	WALKER, LEON VICTOR	79, Dunsmure Road, Stamford Hill, N.
1028	1883, Dec. 17	WALLIS, JOHN DAVID	41, Spring Gardens, Manchester.
1426	1887, Dec. 19	*WARTON, WILFRED	27, Southampton Buildings, Chancery Lane, W.C.
1080	1883, Dec. 17	WATERER, CLARENCE	Dover House, Chertsey, Surrey.
1980	1891, Jan. 17	*WATSON, CLAUDE HENRY	Barnstaple, Devon.
1751	1890, Feb. 24	WATSON, GEORGE	45, Parliament Street, S.W.
1236	1884, Dec. 8	*WATSON, JAMES BRUCE	Brightwell, Tetsworth, Oxon.
1290	1885, Dec. 7	*WATSON, JOHN, JUN.	Wentbridge Lodge, Pontefract, Yorkshire.
1599	1888, Dec. 9	*WATSON, RICHARD	Plymouth Road, Totnes, Devon.
2552	1892, Nov. 28	*WEATHERHEAD, DAVID WILKIN- SON	} Croft House, Keighley, Yrksbire.
1540	1888, Dec. 9	*WEBB, FREDERIC NOEL	
1908	1890, Nov. 22	*WEBSTER, HUGH CALTHROP	97, Gresham Street, E.C.
1081	1883, Dec. 19	WELLS, EDWARD OGDOUN	9, Whitehall Place, S.W.
2553	1892, Nov. 28	*WELLS, WILLIAM HENRY	14, Girdler's Road, West Kensington, W.
930	1883, April 16	WESTON, GEORGE	177, Harrow Road, Paddington, W.
941	1883, April 30	WESTON, JOSEPH AURELIUS	83, High Street, Bedford.
1429	1887, Dec. 19	*WHALLEY, FREDERICK HERBERT	{ 98, Church Street, Birkenhead, and 37, Pepp Street, Chester.
1430	1887, Dec. 19	*WHEELER, CHARLES TREVOR OGLE	
2554	1892, Nov. 28	*WHEELER, JOHN HENRY	189, Fulham Road, S.W.
1440	1888, Jan. 9	*WIGHT, NORMAN	{ Santa Catalina, Boscombe Park, Bournemouth Hants.
2146	1891, May 23	*WILKS, ERNEST STRINGER	
442	1876, Apr. 3	WILLIAMS, WILLIAM WELSEY	Farnham, Surrey.
1083	1884, Jan. 28	WILLOUGHBY, CHARLES WILLIAM	22, Chancery Lane, W.C.
2472	1891, Nov. 4	*WILSON, JAMES CALVERT	Worsthorne Estate Office, Burnley, Lancashire.
2555	1892, Nov. 28	*WILSON, JOHN HAYES	21, Camberwell New Road, S.E.
1449	1888, Jan. 23	*WILSON, WILLIAM EDWARD	{ St. Andrew's Chambers, Albert Square, Ma chester.
2147	1891, May 23	*WINDLEY, HENRY CHADWICK	
2556	1892, Nov. 28	*WING, GEORGE STAUNTON	Rock Mount, Tunbridge Wells, Kent.
1981	1891, Jan. 17	*WOOD, EDWARD BRYAN	5, Elgin Park, Redland, Bristol.
2557	1892, Nov. 28	*WOODS, ARTHUR GEORGE	4 & 5, Church Parade, Hounslow.
2501	1891, Feb. 26	*WOODWARD, WALTER HENRY	10, Crown Villas, Kennington Oval, S.E.
1358	1887, Jan. 10	*WOOLNOUGH, JOHN WILLIAM	Gladstone Villa, Beamsley Road, Eastbourne.
1431	1887, Dec. 19	*WORTHINGTON, JAMES SCOTT	4, Frederick's Place, E.C.
595	1880, Dec. 13	WRIGHT, THOMAS HAWKINS	113 E, Adam Street, Chicago, U.S.A.

Total number of Professional Associates, 345.

Associates.

Date of Election.

1876, Mar. 20	ACLAND, SIR THOMAS DYKE, BART.	} Killerton, Exeter.
1880, Dec. 13	BANKES, JOHN ELDON . . .	4, Elm Court, Temple.
1888, May 14	BARNES, GEORGE FREDERICK .	London County Council, Spring Gardens, S.W.
1868 July 27	BARRY, JOHN WOLFE, M.I.C.E.	21, Delahay Street, S.W.
	<i>(Associate of Council)</i>	
1875, Dec. 13	BATTEN, JOHN WINTERBOTHAM	3, Harcourt Buildings, Temple.
1879, Feb. 3	BEALE, JAMES SAMUEL . . .	28, Great George Street, S.W.
1892, Feb. 26	BELLEWES, GEORGE OLIVER .	45, Parliament Street, S.W.
1891, Mar. 14	BENTHALL, EDWARD JOHN . .	65, Pevensey Road, St. Leonards-on-Sea.
1869, Feb. 22	BIDDER, GEORGE PARKER, Q.C.	3, Paper Buildings, Temple.
1875, Feb. 1	BIRCH, ROBERT WILLIAM PEREGRINE, M.I.C.E. . . .	} 5, Queen Anne's Gate, S.W.
1890, Jan. 6	BOULGER, GEORGE EDWARD SIMONDS	} 18, Ladbrooke Grove, Notting Hill, W.
1868, Jun. 23	BRAMWELL, SIR FREDK. JOSEPH, BART., F.R.S., M.I.C.E. . .	} 5, Great George Street, S.W.
1884, Feb. 11	BUND, JOHN W. WILLIS. . .	15, Old Square, Lincoln's Inn, W.C.
1890, May 29	CADELL, GEORGE	Langley House, Langley Avenue, Surbiton.
1871, Feb. 13	CASTLE, EDWARD JAMES, Q.C.	8, King's Bench Walk, Temple.
1876, Nov. 13	CLARKE, DANIEL	Easton Street, High Wycombe, Bucks.
1891, Jan. 17	CLARKE, ERNEST	12, Hanover Square, W.
1883, Dec. 17	CLARKE, SIR EDWARD, Q.C., M.P.	5, Essex Court, Temple.
1883, Dec. 17	CLODE, WALTER	3, Harcourt Buildings, Temple.
1886, Dec. 6	CLUTTON, HUBERT SPENCER .	9, Whitehall Place, S.W.
1891, Nov. 4	COWLIARD, CHRISTOPHER LETH- BRIDGE	} Launceston, Cornwall.
1885, Jan. 12	CRIPPS, CHARLES ALFRED, Q.C.	2, Mitre Court Buildings, Temple.
1891, Nov. 4	DOWDEN, WALTER ALFRED ALLEN	281, Vauxhall Bridge Road, S.W.
1888, April 30	DRUCE, SAMUEL BENJAMIN LARGE	9, Old Square, Lincoln's Inn, W.C.
1892, Nov. 28	EMDEN, T. WALTER L. . . .	105 & 106, Strand, W.C.

Date of Election.

ASSOCIATES.

1891, Nov. 4	FORBES, ALEXANDER	3, Golden Square, Aberdeen.
1869, Feb. 22	FOWLER, SIR JOHN, M.I.C.E. .	2, Queen Square Place, S.W.
1886, Jan. 11	FREAM, WILLIAM	Downton, Wilts.
1878, Feb. 11	FREEMAN, GEORGE MALLOWS .	11, King's Bench Walk, Temple.
1878, Mar. 11	FRESHFIELD, EDWIN	5, Bank Buildings, E.C.
1876, Mar. 20	FRESHFIELD, WILLIAM DAWES .	5, Bank Buildings, E.C.
1890, Feb. 24	GAYTON, CHARLES	Much Hadham, near Ware, Herts.
1879, Apr. 28	GEPP, CHARLES BRAMSTON } OSBORNE	Chelmsford, Essex.
1874, Feb. 16	GOLDNEY, GABRIEL PRIOR . .	Remembrancer's Office, Guildhall, E.C.
1874, Jan. 5	GRANTHAM, RICHARD FUGE, } M.I.C.E.	Northumberland Chambers, Northumberland Avenue, W.C.
1880, Dec. 13	GULLY, WILLIAM COURT, Q.C., } M.P.	Farrar's Buildings, Temple.
1882, Mar. 27	HAMILTON, HENRY BEST HANS .	1, Brick Court, Temple.
1884, May 5	HAMOND, THOMAS ASTLEY } HORACE	62, Lincoln's Inn Fields, W.C.
1881, Dec. 19	HEAD, JOHN MERRICK	Reigate, Surrey.
1887, Jan. 24	HUDSON, ALFRED ARTHUR . .	5, Paper Buildings, Temple.
1880, Dec. 13	JAMES, SIR HENRY, Q.C., M.P. .	1, New Court, Temple.
1885, Jan. 12	JONGH, JOHN ISIDORE DE . .	San José, Costa Rica, Central America.
1887, May 23	KINCH, EDWARD	Royal Agricultural College, Cirencester.
1873, April 21	KING, WILLIAM, M.I.C.E. . .	Gas Office, Duke Street, Liverpool.
1874, Feb. 2	LEDGARD, FREDERICK THOMAS } DURELL, Q.C.	1, Temple Gardens, Temple.
1891, Nov. 4	LEWORTHY, JOHN HENRY . .	29, Fleet Street, E.C.
1874, Feb. 16	LITTLER, RALPH DANIEL MAKIN- } SON, Q.C., C.B.	4, Temple Gardens, Temple.
1888, Mar. 5	LUARD, MAJOR-GEN. CHARLES } EDWARD, R.E.	Ightham Knoll, near Sevenoaks, Kent.
1891, May 23	MAIDEN, WALTER JAMES . .	Royal Dublin Society, Dublin.
1874, Feb. 16	MARRIOTT, THE RIGHT HON. SIR } WILLIAM THACKERAY, Q.C., } M.P.	6, Crown Office Row, Temple.

Date of Election.

ASSOCIATES.

1886, Dec. 6	MARSHALL, FREDERICK . . .	3, Harcourt Buildings, Temple.
1891, Nov. 4	MENCE, PHILLIP ALLAN . . .	29, Fleet Street, E.C.
1879, Jan. 6	MEYSEY-THOMPSON, ALBERT CHILDERS	} 1, King's Bench Walk, Temple.
1888, Nov. 12	MOULTON, JOHN FLETCHER, Q.C.	
1882, Dec. 18	MUNTON, FRANCIS KERRIDGE	95A, Queen Victoria Street, E.C.
1869, Feb. 22	PHILBRICK, FREDK. ADOLPHUS, Q.C.	Lamb Building, Temple.
1888, Mar. 19	POLLARD, EDWARD HUTCHINSON	3, Elm Court, Temple.
1884, Feb. 11	POPE, SAMUEL, Q.C.	38, Parliament Street, S.W.
1887, Jan. 24	POTTER, WILLIAM, Q.C. . . .	5, Paper Buildings, Temple.
1871, Feb. 27	QUICK, JOSEPH, JUN., M.I.C.E.	36, Great George Street, S.W.
1868, Nov. 9	REES, JOHN CHARLES	13, Great George Street, S.W.
1892, Nov. 28	REW, ROBERT HENRY	Norfolk House, Norfolk Street, W.C.
1895, Jan. 26	RICKARDS, ARTHUR GEORGE . .	11, King's Bench Walk, Temple.
1882, Jan. 16	RIGG, HERBERT ADDINGTON . .	9, King's Bench Walk, Temple.
1883, April 2	RYDE, WALTER CRANLEY . . .	1, Brick Court, Temple.
1891, Mar. 14	SAUNDERS, HERBERT CLIFFORD, Q.C.	} 1, Bolton Gardens, South Kensington, S.W.
1884, Dec. 8	SCOTT, THE HON. HENRY ROBERT	
1889, Feb. 11	SETH-SMITH, ARCHIBALD . . .	Silvermere, Cobham, Surrey.
1888, Apr. 30	SETH-SMITH, FREDERICK . . .	The Lodge, Upton Gray, Winchfield, Hants.
1886, Apl. 12	SHOPPEE, GERALD AUGUSTINE . .	7, Furnival's Inn, E.C.
1879, Apr. 28	SLADEN, ST. BARBE	1, Delahay Street, S.W.
1884, Jan. 14	STATHAM, WILLIAM ARNOLD . .	12, King's Bench Walk, Temple.
1882, Jan. 16	STEPHENS, PEMBROKE S., Q.C. .	1, Plowden Buildings, Temple.
1886, May 3	STEVENS, WILLIAM RICHARD . .	6, St. Thomas Street, S.E.
1875, Jan. 4	STRUTT, THE HON. FREDERICK	Milford House, Derby.
1877, Dec. 10	SUTTON, HENRY	Farrar's Building, Temple.
1891, Nov. 4	THOMAS, GEORGE JAMES . . .	London County Council, Spring Gardens, S.W.
1880, Dec. 13	THOMAS, HUBERT	Watford, Herts.
1891, Mar. 14	VEASEY, THOMAS FREDERICK . .	Bridge House, Huntingdon, Hants.
1887, Jan. 10	VENNING, JOHN JAMES EDG- COMBE	} Devonport.

Date of Election.

ASSOCIATES.

1891, Jan. 17	WALKER, JAMES DOUGLAS, Q.C.	4, Brick Court, Temple.
1885, May 18	WARREN, REGINALD AUGUSTUS	99, Great Russell Street, W.C.
1876, Nov. 27	WEBSTER, SIR RICHD. EVERARD, } Q.C., M.P. (Associate of Council)	2, Pump Court, Temple.
1884, May 26	WELLS, ALFRED DODD	Sotwell Hill, Wallingford, Berks.
1886, May 17	WHEELER, THOMAS WHITTEN- } BURY, Q.C.	4, Crown Office Row, Temple.
1871, Feb. 13	WHITE, HIS HONOUR JUDGE } FREDERICK MEADOWS	4, Paper Buildings, Temple, and 42, Sussex Gardens, Hyde Park, W.
1876, Dec. 18	WILL, JOHN SHIRES, Q.C., M.P	2, Garden Court, Temple.
1891, Nov. 4	WILLIAMS, THOMAS D.	Egremont, Battle Road, Ore, near Hastings, and Johannesburg.
1875, May 15	WINCKWORTH, LEWIS	31, Abingdon Street, S.W.
1870, Jan. 10	WING, THOMAS TWINING	1, Cromwal Road, West Brighton.
1890, Nov. 22	WRIGHTSON, JOHN	College of Agriculture, Downton, Wilts.

Total number of Associates, 91.

Passed Preliminary Examination.

Students.

1892	ADAMS, GERALD JAMES FREDERICK	14, The Chase, Clapham Common, S.W.
1892	ADAMS, HENRY CHARLES	60, Queen Victoria Street, E.C.
1893	ADAMS, HERBERT	43, Thornhill Road, Barnsbury N.
1891	ANDREWS, WALTER ELY	Ely Villa, St. Faith's Road, West Norwood.
1892	ARNOLD, ALAN	Hoe Cross, Hambledon, Hants.
1892	BANNISTER, TOM HARRISON CAFFYN	Hayward's Heath, Sussex.
1891	BARTON, HAROLD	3, Elsons Villas, Church Street, Epsom.
1892	BEASLEY, PERCY CHARLES	Burnfoot, Preston Park, Brighton.
1892	BEKEN, GEORGE, JUN.	65, Cazenove Road, Stamford Hill, N.
1892	BELL, HERBERT OWEN	80, Bolingbroke Grove, Wandsworth Common, S.W.
1893	BELL, RICHARD MAURICE	134, Ramsden Road, Balham, S.W.
1893	BENTLEY, HAROLD EDWIN	Percy Lodge, Teddington.
1893	BERRY, THOMAS DARBY	23, Bolingbroke Grove, Wandsworth Common, S.W.
1892	BETENSON, FREDERIC ROGER	26, Caversham Road, Kentish Town, N.W.

Passed
Preliminary
Examination.

STUDENTS.

1891	BIDWELL, PHILIP SHELFORD	190, Abbey Terrace, Shrewsbury.
1893	BIRCH, FRANCIS JULIAN LAURENCE	Mangerton, Melpash, Dorset.
1892	BLOUNT, EDWARD	24, Devonshire Place, W.
1892	BONELLA, RAPHAEL	Heathcote Road, St. Margaret's, Twickenham.
1890	BRADSHAW, HARRY GREAVES	26, Demesne Road, Alexander Park, Manchester.
1893	BROWN, ARTHUR FREDERICK	15, Cheyne Gardens, Chelsea, S.W.
1891	BRINSLEY, HERBERT GEORGE } WILLIAM }	12, The Avenue, Upper Norwood, S.E.
1892	BRUCE, ALEXANDER	Elm Grove, Darlington.
1891	BRUTON, HENRY TEW	Albion Chambers, Gloucester.
1893	BURGESS, HENRY HERBERT PHILIP,	12, Oppidans Road, Regent's Park, N.W.
1892	CABLE, CHARLES V.	176, Stockwell Park Road, Brixton, S.W.
1892	CARNELL, SYDNEY GEORGE	Little Bray House, South Molton, Devon.
1892	CARTWRIGHT, ALFRED STOTT	Merridale, Snelson, Chelford, Macclesfield.
1891	CHATELL, DAVID GEORGE	29A, Lincoln's Inn Fields, W.C.
1893	CLARKE, JOHN WILLIAM	38, George Street, Croydon.
1892	CLAYTON, JOHN WHITEHEAD	20, Lancaster Park, Richmond, Surrey.
1892	CLUTTERBUCK, ROBERT WM.	Royal Agricultural College, Cirencester.
1893	COBB, HENRY WILLIAM	South Newton, Salisbury, Wilts.
1893	COLE, RICHARD ERNEST	4, St. Margaret's Bank, Rochester, Kent.
1892	COWELL, HERBERT LEE	Twyn House, Usk, Monmouthshire.
1893	COWELL, WILFRED LEE	Eversley, Rose Valley, Brentwood, Essex.
1893	COWIN, NORRIS TYNWALD	Mushorka, Wallwood Road, Leytonstone.
1892	COWPER, WILLIAM SHAPLAND	Gortamore, Tunstall, Sittingbourne.
1892	CRAWFORD, HERBERT HENRY	59, Upper Kyverdale Road, Stamford Hill, N.
1892	CROWTHER, KESTON NELSON	80, Victoria Road, Clapham Common, S.W.
1892	DAVIES, DIXON BOWRING	11, Dowgate Hill, E.C.
1892	DAVIES, WALTER JACKSON	Excelsior House, Wylde Green, near Birmingham.
1892	DEELEY, GEORGE PLANT	Mouse Hall, Ambleside, Brierley Hill.
1892	DEER, EDWARD AUBREY	26, High Street, Stratford-on-Avon.
1893	DICKSON, FRANCIS HERBERT	24, West Cliff, Preston, Lancashire.
1891	DINWIDDY, DONALD	Crooms Hill, Greenwich Park, S.E.
1892	EADIE, JAMES JEFFERY	Cathedral Yard, Exeter, Devon.
1893	EASTWOOD, GEORGE HERBERT	Enton, Godalming, Surrey.
1893	EVANS, ERNEST SYDNEY	Abbotsford, Ealing, W.
1893	EVE, CHARLES GERALD	2, St. Paul's Square, Bedford.
1891	EVERINGTON, JOHN	(Merton House, Dulwich Wood Park, Norwood, S.E.)

*Passed
Preliminary
Examination.*

STUDENTS.

1891	FARMER, HUGH CECIL . . .	9, Whitehall Place, S.W.
1892	FINCH, CLEMENT ROBERT . .	Leverstock Green Vicarage, Hemel Hempstead.
1890	FLETCHER, HERBERT PHILLIPS .	{ Anglebay, Woodchurch Road, West Hampstead, N.W.
1892	FOLKES, HUGH ERNEST . . .	Dudley Road, Lye, near Stourbridge.
1893	FOSTER, EDWARD CHARLES . .	54, Pall Mall, S.W.
1892	GARNER, JOHN STANLEY . . .	159, High Street, Uxbridge.
1890	GILBERT, JOHN SAINSBURY . .	Granville, Mill Hill Park, Acton, W.
1892	GLOVER, HENRY ALEXANDER . .	1, Motcomb Street, S.W.
1892	GODFREY, CHARLES HENRY . .	Valentine Road, King's Heath, Birmingham.
1891	GRATTON, WYKEHAM CHARLES } JOSEPH	Ealing Lodge, Littlehampton, Sussex.
1893	GREEN, ARTHUR EDWARD . . .	Hildene, Luton, Bedfordshire.
1890	GREEN, FREDERICK ALGERNON .	28 and 29, St. Swithin's Lane, E.C.
1893	GROVE, ALBERT	Parkfield Villa, Stourbridge.
1893	GROVE, RICHARD THOMAS . . .	27, St. Agnes Place, Kennington Park, S.E.
1893	HANKEY, GILBERT LIONEL . . .	Hylands, Epsom, Surrey.
1892	HARRIS, WILLIAM	Barton Mark, Winchester, Hants.
1893	HARRISON, GEO. JOHN ROBERTSON	13, Clarendon Road, Clepham Rise, S.W.
1893	HAWKINS, ARTHUR MUSGRAVE .	48, Dafforne Road, Upper Tooting, S.W.
1891	HEASLER, HOLLAND CHARLES .	Verandah Cottage, Hill Rise, Richmond, Surrey.
1892	HICKS, WILLIAM ROOKE . . .	Vestry Hall, Hampstead, N.W.
1891	HOLMES, JOHN EDWARD . . .	3, King Street, E.C.
1893	HOOPER, EDGAR WILFRED . . .	Tolbury, Bruton, Somerset.
1893	HOWLAND, ARTHUR FRANK . . .	55, Great Portland Street, W.
1892	HULL, WILLIAM HINDES . . .	{ 1, Primrose Terrace, Vicarage Road, Leyton, Essex.
1893	HUSKINSON, ERNEST AMPHLETT	Epperstone Manor, Nottingham.
1892	IRVINE, ARCHIBALD WYNDHAM .	{ 10, St. George's Terrace, Gloucester Road, South Kensington, S.W.
1892	JARMAIN, WILLIAM	Clonakilty, 14, Wightman Road, Hornsey, N.
1892	JEBOULT, DOUGLAS HAROLD . .	37, Windsor Road, Ealing, W.
1891	JONES, PERCY EVERLEY . . .	Fallowfield, Gordon Road West, Ealing, W.
1891	KIDMAN, EDWARD HUGH . . .	{ Leicester House, 26, Bedford Place, Russell Square, W.C.
1890	KING, WALTER NIKE	17, Akeman Street, Tring, Herts.

*Passed
Preliminary
Examination.*

STUDENTS.

1892	LAMPRIILL, WILLIAM THOMAS .	63, Broadway, Stratford, E.
1892	LEANE, WALTER BURDITT . .	21, Queen Anne's Gate, S.W.
1892	LEE, SYDNEY BURTON .	Dereham, Putney Hill, S.W.
1892	LIGHTFOOT, FRANCIS PRIDEAUX .	Estates Office, Drayton Manor, Tamworth.
1893	LITTLE, ALFRED STUART .	Stuart House, Cambridge Park, Twickenham.
1891	LIVERSEDGE, JOHN WILLIAM .	Primrose Villa, Western Street, Barnsley.
1893	LOFTS, ALGERNON KNIGHT . .	Oakmere, Potter's Bar, Middlesex.
1893	LORDEN, LEONARD WM. CRANDALL,	Highlands, Hythe, Kent.
1893	LOVEGROVE, CHARLES . . .	Potter's Bar, Middlesex.
1893	LUCK, GEORGE EDWARD . . .	Oakmead, Crouch End, N.
1892	LYONS, EDWARD COVILL . .	Middleton Stoney, Bicester, Oxon.
1892	MANN, FREDERICK CHAS. THOMAS	9, Malwood Road, Batham Hill, S.W.
1891	MARRIAGE, PERCY JOHN . .	14, Aldgate, E.
1893	MARSHALL, ARTHUR GEORGE .	The Oaks, Alleyn Park, West Dulwich, S.E.
1892	MARVIN, ALFRED JOHN . .	19, High Street, Chelmsford, Essex.
1891	MARTIN, SAMUEL	20, Havelock Road, Croydon, Surrey.
1893	MARTIN, STANLEY ARTHUR . .	19, High Street, Chelmsford, Essex.
1893	MILLER, JOHN	41, Fishergate, Preston, Lancashire.
1893	MORRALL, ARTHUR RICHARD .	134, Osmaston Road, Derby.
1891	MORRIS, WILLIAM HENRY .	Fair View, Caeran Road, Newport, Mon.
1891	MOXON, HAROLD	Newnham, Cambridge.
1893	NETTLEFOLD, GODFREY . . .	Edgbaston, Birmingham.
1892	NEVETT, THOMAS CHARLES . .	41, Fishergate, Preston, Lancashire.
1892	NEUBRONNER, HARRY ALFRED .	138, Warwick Street, S.W.
1891	NICHOLLS, EDWARD ALFRED .	6, Buckingham Terrace, New Southgate, N.
1891	NICHOLSON, ARTHUR WILLIAM .	Petra Villa, Bournemouth, Hants.
1891	NORRIS, ARTHUR BLURTON . .	13, Stanley Gardens, Willesden Green, N.W.
1893	OLDMAN, MONTAGUE CHARLES .	The Grange, Betchingley, Surrey.
1893	OVERELL, PERCY WILLIAM .	Codicote Bury, Welwyn, Herts.
1893	OXLEY, ARTHUR JAMES . . .	Wellington Villa, Portswood, Southampton.
1892	PAGE, STANLEY HATCH . . .	23, High Street, Maidstone, Kent.
1891	PAIN, GEORGE LLOYD . . .	Silverdale Vicarage, Carnforth, Lancashire.
1892	PAIN, WILLIAM HENRY . . .	40, Navarino Road, Graham Road, N.E.
1892	PARKS, WALTER	Sidley House, Bexhill, Sussex.
1892	PAUL, JOHN WILLIAM . . .	Westbury, East Finchley, N.
1893	PEARCE, CHARLES FREDERICK .	78, Blenheim Gardens, Willesden Green, N.W.
1893	PEARSE, OCTAVIUS BURROUGHES	Weeford Lodge, Erdington, near Birmingham.

*Passed
Preliminary
Examination.*

STUDENTS.

1892	PEPPER CORN, JOHN ARTHUR .	Royal Agricultural College, Cirencester.
1892	PHILLIPS, FRANCIS JOHN . .	The Limes, Grove Road, Chelmsford, Essex.
1891	PRITCHARD, HERBERT ALFRED .	14, Warwick Road, Earl's Court, S.W.
1891	ROBERTS, JOSEPH WM. GEORGE	Preston, Yeovil.
1893	ROBINSON, JOHN BROOKE WOOD	Woolton Hill, Newbury, Berks.
1893	ROME, ARTHUR ERNEST . . .	Rugeley, Staffordshire.
1893	ROOK, JOSEPH TAYLOR . . .	3, Warwick Square West, Carlisle.
1892	ROOTHAM, FREDERICK FLEET .	Lampport, Northampton.
1892	SANDFORD, CHARLES SIDNEY .	Ecclesall Vicarage, Sheffield.
1890	SCOTT, ARCHIBALD LACY . . .	Bury St. Edmund's, Suffolk.
1892	SEDGWICK, ALFRED SYDNEY EDW.	195, Tulse Hill, S.W.
1893	SHAW, SYDNEY HUBERT . . .	{ Fernleaves, Huddlestons Road, Willesden Green, N.W.
1893	SHEPHERD, WILLIAM	5, Church Row, Hampstead, N.W.
1891	SHEPPARD, ALEXANDER CHAM- BERLAYNE O.	{ Glyn Clydach, near Neath, Glamorganshire.
1892	SKINGLE, ALFRED CHARLES . .	79, St. James' Road, Brixton, S.W.
1891	SLY, JOSEPH TOWNSON . . .	54, The Parade, Leamington Spa.
1892	SMITH, ALEXANDER GEORGE .	46, Sydney Street, Chelsea, S.W.
1893	SMITH, ARTHUR PLUMBE . . .	Sudbury, Derby.
1893	SMITH, HENRY	Ashgrove, Low Utley, Keighley, Yorks.
1893	SOUTHORNE, CHARLES HERBERT	Richmond Chambers, Bournemouth, Hants.
1892	STANDEN, ARTHUR CARNEGIE .	Broadlands, Streatham, S.W.
1890	STAPLEDON, ERNEST ALLEN .	Lakenham, Northam, Bideford, Devon.
1891	STENNING, OSWALD FRANCIS .	76, St. George's Road, S.W.
1891	STEVENS, SYDNEY SAMUEL . .	Thorney, near Peterborough.
1891	STROUTS, LEWIS HERBERT . .	Belgrave Place, St. Mary Cray, Kent.
1892	STUPART, CHARLES WALTER .	4, Plymouth Road, Totnes, Devon.
1891	TEWSON, LEONARD	{ The Weald, Netherhall Gardens, Hampstead, N.W.
1891	THOMPSON, FREDERICK HUBERT	Horsley Vicarage, Derby.
1893	THOMPSON, ROLAND O'BRIEN .	{ Bisham Park Farm, Cookham Dean, Maiden- head.
1893	TOMLINSON, LEWIS	Hogston, Bucks.
1891	TOWNEND, WILLIAM	Park Farm, Seacroft, near Leeds.
1893	TRUEMAN, REGINALD SEWARD .	{ Oaklands, Birchwood Park, Swanley Junction, Kent.
1892	WALKER, WILLIAM SELVES . .	Woodberry, Sydenham Hill, Surrey.
1893	WALLIS, WILLIAM FREDERICK .	Durleston, Crawley Road, Horsham, Sussex.

*Passed
Preliminary
Examination.*

STUDENTS.

1893	WARD, FRANK EDWARD . . .	Woodleigh, Bedford.
1892	WATSON, HERBERT JOHN . . .	Mill Farm, Wressle, Howden, Yorks.
1891	WATTS, RUPERT CYRIL . . .	St. Ives, Huntingdon.
1892	WHITBY, HERBERT BATESON . .	St. John's House, Sandown, Isle of Wight.
1893	WHITE, WILLIAM, JUN. . . .	The Cedars, Gosforth, Newcastle-on-Tyne.
1892	WILDE, SIDNEY ALGERNON . .	29, Fleet Street, E.C.
1891	WILLIAMS, HENRY CUTHBERT .	13, Albany Road, Stroud Green, N.
1893	WILLIAMS, LLEWELYN IRBY STEUART	} The Elms, Thames Ditton, Surrey.
1893	WILSON, JOHN	
1891	WINDSOR, ARTHUR SIMEON. . .	6, High Street, Banbury.
1891	WYATT, ARCHIBALD	Newland, Fareham, Hants.

Total number of Students, 163.

SUMMARY.

Honorary Members	14
Fellows	1,626
Professional Associates	345
Associates	91
Students	163
Total	<u>2,239</u>

NOTE.—To ensure the regular transmission of the Papers and Notices, it is particularly requested that any changes of address be communicated at once to the Secretary.

Members of the Institution who have Passed the Fellowship Examination.

1893 *ABRAMS, BENJAMIN PERCY.	1893 *DEBENHAM, FRANK BRIDGEWATER.
1888 ADKIN, BENAIAH WHITLEY (<i>Special Sanitary Science Certificate, 1893</i>)	1893 *DEBENHAM, HORACE BENTLEY.
1893 *AMOS, FRANK (<i>Crawter Prize, 1893</i>).	1890 *DENDY, WILLIAM COOPER.
1892 ANSCOMBE, ERNEST.	1885 DICKSON, THOMAS ARTHUR.
1887 AUSTIN, RICHARD, JUN.	1891 DONE, JOHN JAMES.
1891 *AYLEN, CECIL HUGH.	1888 DREW, HENRY ALBAN.
1891 BALL, WILLIAM ALFRED.	1892 *DUDLEY, EDGAR.
1893 *BANCROFT, FREDERICK HERBERT.	1891 EAGLAND, WILLIAM FRANCIS.
1891 BARNES, GEORGE FREDERICK.	1890 ELLIS, HERBERT MOATES.
1893 *BEADEL, FREDERICK MAURICE.	1890 ELLIS, RALPH STAPLES.
1889 BEARD, EDWIN THOMAS.	1887 EVE, HERBERT TRUSTRAM.
1884 BEDELLS, CHARLES HERBERT.	1890 EVES, WILLIAM LIONEL.
1893 *BELLINGHAM, ARCHIBALD TURNER.	1893 *FRANKLIN, BENJAMIN BELGROVE.
1888 BENSON, ROBERT ALAN.	1890 FOSTER, FRANK (<i>Special Sanitary Science Certificate, 1892</i>).
1893 *BEVEN, SEPTIMUS.	1892 *GARRARD, ARTHUR NORMAN.
1889 BIRCH, WALTER DE HOGHTON.	1887 GIBB, WILLIAM PASHLEY.
1893 *BODY, ARTHUR.	1892 GIDDY, OSMAN HORTON.
1885 BONTOR, FRANK ARTHUR.	1893 *GODDARD, ALEXANDER.
1891 BOULTING, FREDERICK EDWARD.	1886 GODFREY, ROBERT.
1892 BRACKETT, FREDERICK HENRY.	1892 *GREEN, ALEXANDER ERNEST.
1893 *BRADY, RALPH HOLLINSHED.	1891 GRIFFITHS, HAROLD.
1893 BROWN, ALEXANDER BURNETT.	1892 GROGAN, HEDWORTH HERBERT.
1893 *BROWN, ARTHUR MACDONALD.	1892 GROVER, ARTHUR.
1887 BUCKLAND, ALFRED VIRGOE.	1891 *HADLEY, FRANK.
1893 *BUCKLAND, SIDNEY CRAWFORD.	1891 HALL, WILLIAM TIMOTHY.
1887 BURROWS, ALFRED JOHN.	1888 HANSELL, REGINALD GODDARD (<i>Special Sanitary Science Certificate, 1893</i>).
1891 BUSHELL, HENRY.	1890 *HASLAM, DRYLAND, JUN.
1892 *CASTLE, HAROLD.	1886 HASLUCK, LANCELOT GERALD.
1893 *COBHAM, GEORGE WILLIAM.	1892 *HAYWARD, FREDERICK GEORGE.
1892 CORDEROY, ATHELSTANE.	1891 HEAD, JOHN GEORGE (<i>Crawter Prize, 1891</i>).
1893 *CRIER, JOHN THOMAS.	1891 HIGGINS, GEORGE.
1890 DARCH, JOHN.	
1892 DAVEY, HENRY THOMAS.	
1886 DAY, WILLIAM, JUN.	

Members of the Institution who have Passed the Fellowship Examination.—continued.

1883 HODGE, LEONARD PERCIVAL.	1891 *PARRIS, CHARLES JOHN.
1883 HORNE, WILLIAM EDGAR.	1887 PARRY, RICHARD.
1892 KEMP-SMITH, JAMES FREDERICK.	1886 PAULL, ALAN.
1884 JOHNSON, HENRY.	1891 PERKINS, WALTER FRANK.
1889 JONAS, HARRY MARSHALL.	1884 PETO, JAMES WINDER.
1890 JONES, FREDERICK HERBERT.	1885 PILDITCH, PHILIP EDWARD (<i>Special Sanitary Science Certificate</i> , 1890).
1886 JONES, HENRY ARTHUR (<i>Special Sanitary Science Certificate</i> , 1892).	1892 PRESTON, SAMUEL DAVID.
1888 KING, ALFRED.	1891 *PUNCHARD, FREDERICK BURT.
1889 LAMBERT, GODFREY CHARLES	1892 RICHARDSON, OLIVER ARCHER
1893 *LAWLEY, FREDERICK WILLIAM	(<i>Crawter Prize</i> , 1892).
1893 *LEANING, HENRY JOHN.	1893 *ROBINSON, HENRY HERBERT.
1893 *LEE, JOHN WILFRID.	1884 ROLLESTON, WILLIAM GUSTAVUS
1891 MANN, ROBERT BAGSHAW.	STANHOPE.
1892 MARTIN, THOMAS.	1887 ROODS, ALFRED.
1888 MASSIE, FRANK.	1889 RUNDLE, EDWARD COLLINS.
1889 MAXWELL, FRANCIS WILLIAM.	1889 SADLER, GEORGE WILLIAM, JUN.
1893 *MELLENFIELD, JAMES HENRY.	1891 SAUNDERS, CHARLES HERBERT.
1890 *MELROSE, FRANK (<i>Special Sanitary Science Certificate</i> , 1893).	1892 *SAVILL, EDWIN.
1892 *MERRY, ARTHUR WALKER.	1883 SILCOCK, THOMAS BALL.
1884 MICHELMORE, ALFRED (<i>Special Forestry Certificate</i> , 1890).	1892 SLATER, CHARLES FREDERICK.
1888 MILLWARD, ISAAC.	1889 SMITH, FRANK WILLIAM.
1892 MITCHELL, GEORGE SHARMAN.	1884 SMITH, WILLIAM.
1884 MIXER, EDWARD.	1887 TIFFEN, JOHN HENRY.
1885 MOORF, HAROLD EDWARD.	1893 *TORY, JOHN EDWARD.
1891 MOULD, GRAHAM HARLEY.	1885 TREADWELL, HENRY JOHN.
1892 MULLER, JOHN JOSEPH.	1893 *TUCKETT, PERCIVAL FOX.
1883 NORTH, GEORGE FREDERIC.	1893 *TYLER, JAMES WILLIAM.
1891 OAKLEY, JOHN HUBERT.	1883 VERNON, ARTHUR.
1892 *OGDEN, MICHAEL GUY.	1892 WALKER, JOSEPH ARTHUR.
1892 OSENION, GEORGE, JUN.	1892 *WEBSTER, HUGH CALTHROP.
1885 *PAIN, JAMES.	1891 WOOD, CHARLES BRUCE.
1892 PALAMOUNTAIN, JOSEPH WM.	1892 YOUNG, HARRY AUSTIN LINDSAY.

* Those to whose names a star is affixed, have passed the Fellowship Examination, but have not yet been transferred to the Class.

Members of the Institution who have Passed the Professional Associateship Examination.†

1891 ABRAMS, BENJAMIN PERCY.	1890 BOULTING, FREDERICK EDWARD.
1887 ADKIN, BENAIAH WHITLEY.	1886 BOUSFIELD, EDWIN VAUGHAN DAVENPORT.
1892 AMOS, FRANK.	1891 BOWDEN, ERNEST NEWTON.
1887 ANSCOMBE, ERNEST.	1891 BOWDEN, JOHN FRIENDSHIP (<i>Institution Prize</i> , 1891).
1890 ARMYTAGE, FRANCIS REGINALD	1888 BOWER, ARTHUR WENTWORTH CHIVERS.
1885 ARNOTT, JOHN (<i>Special Prize</i> , 1885)	1890 BRACKETT, FREDERICK HENRY.
1889 ASSITER, HARRY G. (<i>Special Sanitary Science Certificate</i> , 1892).	1888 BRADY, RALPH HOLLINSHED.
1887 AUSTIN, RICHARD, JUN.	1888 BREVETOR, THOMAS, JUN.
1890 AYLEN, CECIL HUGH.	1889 BRIDGFORD, LEO APPLETON.
1885 BAKER, CECIL CAUTLEY.	1886 BRIGGS, JOHN
1888 BALL, JAMES BENJAMIN.	1892 BRINKWORTH, ROBERT EDWIN.
1889 BALL, WILLIAM ALFRED.	1891 BROWN, ALEXANDER BURNETT.
1890 BANCROFT, FREDERICK HERBERT.	1889 BROWN, ARTHUR MACDONALD (<i>Driver Prize</i> , 1889).
1890 BARCLAY, THOMAS.	1892 BROWN, GEORGE TURVILLE.
1892 BARKER, GEOFFREY LIONEL.	1887 BROWN, WILLIAM EDWARD.
1889 BARNES, GEORGE FREDERICK.	1885 BUCKLAND, ALFRED VIRGOE.
1884 BARRATT, HARRY.	1891 BUCKLAND, SIDNEY CRAWFORD.
1887 BATEMAN, ARTHUR CHARLES.	1888 BULBECK, GEORGE.
1890 BEADEL, MAURICE FREDERICK.	1892 BURDER, REGINALD EDWARD CAMPBELL.
1885 BEARD, EDWIN THOMAS.	1886 BURROWS, ALFRED JOHN.
1891 BEASLEY, JOHN ARTHUR LLEWELLYN (<i>Driver Prize</i> , 1891).	1887 BUSHELL, HENRY.
1883 BEDELIS, CHARLES HERBERT.	1887 BUSS, FLEETWOOD GEORGE WILLIAM.
1888 BELCHER, EDWARD JOHN.	1886 CAMPBELL, COLIN.
1889 BELLINGHAM, ARCHIBALD TURNER.	1891 CARR, THOMAS EDMUND.
1884 BENSON, ROBERT ALAN (<i>Bracketted Special Prize</i> , 1884).	1887 CARTER, ALFRED PRESLEY.
1892 BEVEN, SEPTIMUS.	1891 CASTLE, HAROLD.
1884 BIRCH, WALTER DE HOUGHTON.	1888 CHALCRAFT, HENRY TERRELL
1886 BIRKETT, TOM.	1888 CHENEY, EDWIN JOHN.
1885 BLUNDELL, HARRY.	1892 CHILD, CHARLES, JUN.
1890 BODY, ARTHUR.	1888 CHILD, EDMUND HERBERT.
1883 BONTOR, FRANK ARTHUR.	
1887 BOOTH, JOHN FREDERICK.	

† This list does not include the names of those who have passed the Examination but have not yet joined the Institution.

Members who have Passed the Professional Associateship Examination—continued.

1885	COALES, HERBERT GEORGE.	1887	EVE, HERBERT TRUSTAM.
1890	COBHAM, GEORGE WILLIAM (<i>Special Prize, 1890; Cawter Prize, 1890</i>).	1892	EVERED, GILLIEBRAND EDWIN.
1889	COLBOURN, HENRY JAMES (<i>Special Forestry Certificate, 1890</i>).	1892	EVERETT, ARTHUR SHERMAN.
1887	COLLINGHAM, J. CYRIL LEES.	1888	EVES, WILLIAM LIONEL.
1885	COLLINS, MARCUS E.	1892	FINN, FRED.
1888	COLLYER, DANIEL WILLIAM.	1891	FINN, HERBERT ARCHIBALD (<i>Special Prize, 1891</i>).
1892	COOKE, LIONEL.	1892	FORD, SOLOMON.
1890	COPE, HENRY JAMES.	1890	FORREST, WILLIAM.
1891	CORDEROY, ATHELSTANE.	1889	FORSTER, WALTER HILL.
1891	CRAWSHAY, LIONEL RUTTLEDGE.	1888	FOSTER, FRANK.
1888	CRAWTER, JOHN, JUN.	1892	FOSTER, JAMES HERBERT FURMEDGE.
1891	CRIER, JOHN THOMAS.	1891	FRANKLIN, BENJAMIN BELGROVE.
1892	CROOKES, CHARLES REGINALD.	1890	FRASER, WILLIAM.
1886	CROSLAND, WALTER.	1889	GALSWORTHY, VINCENT SOMERS.
1891	CROSS, ARNOLD CHARLES MARTIN.	1892	GARDNER, GILBERT.
1888	CROUCH, JAMES LEONARD.	1890	GARRARD, ARTHUR NORMAN.
1889	DARCH, JOHN.	1892	GERMAN, GEORGE, JUN. (<i>Driver Prize, 1892</i>).
1888	DAVEY, HENRY THOMAS.	1886	GIBB, WILLIAM PASULEY.
1892	DAVIES, DAVID THOMAS.	1885	GIBBON, WILLIAM JACOMB (<i>Driver Prize, 1885</i>).
1891	DAVIS, NEVILLE BROOKES.	1889	GIDDY, OSMAN HORTON.
1888	DAY, WILLIAM, JUN.	1889	GODDARD, ALEXANDER.
1892	DEBENHAM, FRANK BRIDGEWATER.	1885	GODFREY, ROBERT.
1891	DEBENHAM, HORACE BENTLEY.	1886	GOLIGHTLY, CHARLES HUGH.
1889	DENDY, WILLIAM COOPER (<i>Special Prize, 1889</i>).	1889	GRANT, JOSEPH.
1884	DICKSON, THOMAS ARTHUR.	1890	GREEN, ALEXANDER ERNEST.
1888	DIXON, FRANCIS EDWARD (<i>Special Prize, 1888</i>).	1891	GREEN, EDMUND HORACE.
1887	DONE, JOHN JAMES (<i>Driver Prize, 1887</i>).	1887	GREEN, THOMAS JOHN.
1886	DREW, HENRY ALBAN.	1886	GREEN, THOMAS JOSEPH.
1889	DUDLEY, EDGAR.	1884	GREENOP, EDWARD.
1884	DUNNING, BERNARD SIMON.	1890	GRIFFITHS, HAROLD.
1888	EAGLAND, WILLIAM FRANCIS.	1892	GRIGGS, HENRY JENNER.
1890	ELGOOD, FRANK MINSHULL.	1888	GRIMES, RALPH FEARON.
1892	ELLIS, ALBERT EDWARD.	1890	GROGAN, HEDWORTH HERBERT.
1890	ELLIS, FRANCIS, JUN.	1889	GROVER, ARTHUR.
1888	ELLIS, HERBERT MOATES.	1888	GUNTER, JAMES.
1887	ELLIS, RALPH STAPLES.	1889	HADLEY, FRANK.
		1892	HAIGH, THOMAS FREDERICK.

Members who have Passed the Professional Associateship Examination—continued.

1892	HALES, ARTHUR JOHN.	1883	JONES, HENRY ARTHUR.
1884	HALKYARD, WILLIAM REDFORD.	1891	JOYCE, HARRY WARD.
1884	HALL, WILLIAM TIMOTHY (<i>Institution Prize</i> , 1884).	1885	JULL, WILLIAM VINCENT.
1886	HALTON, HARRY RUSSELL.	1890	KAY, WALTER ROBERT.
1890	HAMPTON, GEORGE FREDK. WILLIAM.	1890	KEMP-SMITH, JAMES FREDERICK.
1892	HANKINSON, FRANCIS HENRY.	1887	KING, ALFRED.
1887	HANSELL, REGINALD GODDARD.	1886	KING, WILLIAM ISAAC.
1887	HARDING, FREDERICK ALLCROFT.	1892	KNIGHT, GEORGE EDWARD.
1888	HASKINS, WILLIAM ALBION.	1888	LAMBERT, GODFREY CHARLES.
1889	HASLAM, DRYLAND, JUN.	1885	LANSDOWN, GEORGE ARTHUR.
1883	HASLUCK, LANCELOT GERALD.	1890	LARKIN, RICHARD WEBSTER.
1890	HAYWARD, FREDERICK GEORGE.	1891	LAWLEY, FREDERICK WILLIAM.
1889	HEAD, JOHN GEORGE.	1890	LEANING, HENRY JOHN.
1885	HEBBLETHWAITE, CHARLES HENRY.	1886	LEE, JOHN WILFRID.
1892	HELLICAR, GEORGE THOMAS (<i>Special Sanitary Science Certificate</i> , 1893).	1888	LEVERTON, FRANK JOHN WALDEMAR (<i>Special Sanitary Science Certificate</i> , 1893).
1888	HENDERSON, HARRY GILBERT.	1890	LEWIS, ARTHUR LLEWELYN.
1886	HENDERSON, RICHARD.	1892	LITTLE, HENRY.
1889	HIGGINS, GEORGE.	1891	LONGSDON, EDWARD MOREWOOD.
1886	HILL, ADFRED.	1886	LOWE, CHARLES ROBERT.
1885	HILLIARD, GEORGE EDWARD.	1892	LUCAS, JOHN ARCHIBALD.
1888	HODGE, LEONARD PERCIVAL.	1888	LUMLEY, JULIAN ARTHUR.
1890	HODGKINSON, JAMES HENRY.	1888	MANN, ROBERT BAGSHAW.
1891	HOLLIS, HERBERT.	1888	MARTIN, HEBER GAMBLING (<i>Institution Prize</i> , 1888).
1891	HOLLIS, RALPH.	1888	MARTIN, THOMAS.
1888	HOMAN, HUBERT FRANKLIN.	1889	MASON, CHARLES WILLIAM HAYLEY.
1887	HOOPER, CECIL HENRY.	1885	MASSIE, FRANK.
1890	INNES, GILBERT PLANTAGENET MITCHELL.	1892	MAUGHAN, JOHN.
1892	JARMAN, FRANK WILMOT.	1886	MAXWELL, FRANCIS WILLIAM.
1891	JESSETT, CHARLES EDWARD VERNON.	1884	MEAD, JOHN HENRY.
1892	JOHNS, PERCY.	1892	MELLENFIELD, JAMES HENRY.
1892	JOHNSON, BERNARD MARR.	1887	MELROSE, FRANK.
1883	JOHNSON, HENRY.	1892	MENZIES, ROBERT.
1887	JOHNSTON, WALTER HENRY.	1890	MERRY, ARTHUR WALKER (<i>Institution Prize</i> , 1890).
1887	JONAS, HARRY MARSHALL (<i>Institution Prize</i> , 1887).	1892	MEW, ROBERT HEATH.
1886	JONAS, SAMUEL MARSHALL.	1892	MILLER, GEORGE FREDERICK.
1888	JONES, FREDERICK HERBERT.	1887	MILLWARD, ISAAC.
		1891	MITCHELL, GEORGE SHARMAN.

Members who have Passed the Professional Associateship Examination—continued.

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| 1884 MIXER, EDWARD. | '891 POGGIO, ELOI JOHN. |
| 1890 MOLYNEUX, HERBERT ERNEST. | 1890 POTTER, HERBERT GEORGE. |
| 1883 MOORE, HAROLD EDWARD. | 1892 PRALL, HERBERT ALEXANDER. |
| 1888 MORGAN, ALFRED WALKER. | 1890 PRALL, HERBERT EDWARD. |
| 1892 MORRIS, RICHARD PERCIVAL. | 1886 PRATER, THOMAS HERBERT. |
| 1892 MORRISH, HUGH KENNETH. | 1888 PRESTON, SAMUEL DAVID. |
| 1891 MOSES, HENRY. | 1892 PRICE, RICHARD ARNOLD. |
| 1890 MOULD, GRAHAM HARLEY. | 1889 PRICKRIDGE, PERCIVAL MARTIN. |
| 1883 MOYES, JOHN HELENUS. | 1888 PUNCHARD, FREDERICK BURT. |
| 1889 MUIR, JAMES (<i>Institution Prize</i> ,
1889). | 1885 RAND, JOHN. |
| 1891 MULLER, JOHN JOSEPH. | 1891 RICHARDSON, OLIVER ARTHUR. |
| 1892 NEWMAN, SAMUEL FRANK. | 1891 ROBINS, PHILIP SEYMOUR. |
| 1890 NOCKOLDS, ALFRED GEORGE. | 1887 ROBINSON, ALFRED WHITMORE. |
| 1888 NOCKOLDS, MARTIN CHARLES
HUBERT. | 1891 ROBINSON, HENRY HERBERT. |
| 1891 OAKLEY, CHRISTOPHER PERCIVAL. | 1883 ROLLESTON, WILLIAM GUSTAVUS
STANHOPE (<i>Institution Prize</i> ,
1883). |
| 1890 OAKLEY, JOHN HUBERT. | 1886 RODS, ALFRED (<i>Driver Prize</i> ,
1886). |
| 1890 OGDEN, MICHAEL GUY. | 1888 ROPER, JOHN SIMPSON. |
| 1890 OSENTON, GEORGE, JUN. | 1889 ROWLEY, WILLIAM TAYLOR. |
| 1892 OUVRY, PETER ARNOLD. | 1886 RUDDLE, FRANK J. |
| 1892 OVENDEN, CHARLES. | 1883 RUNDLE, EDWARD COLLINS. |
| 1883 PAIN, JAMES. | 1884 SADLER, GEORGE WILLIAM, JUN. |
| 1888 PALAMOUNTAIN, JOSEPH WILLIAM. | 1887 SALT, REGINALD NOWELL. |
| 1891 PALMER, WILLIAM EDWARD KING. | 1889 SAMPSON, WILLIAM. |
| 1889 PARRIS, CHARLES JOHN. | 1883 SATCHEL, CHARLES (<i>Special Prize</i> ,
1883). |
| 1887 PARRY, RICHARD. | 1889 SATCHELL, HERBERT ARNOLD. |
| 1890 PARTRIDGE, EDWARD JOHN
(<i>Driver Prize</i> , 1890). | 1889 SAUNDERS, CHARLES HERBERT. |
| 1883 PAULL, ALAN. | 1890 SAVILL, EDWIN. |
| 1889 PERKINS, JOSEPH. | 1892 SCOTT, THOMAS. |
| 1886 PERKINS, WALTER FRANK (<i>Special
Prize</i> , 1886). | 1891 SEDGWICK, RUPERT WILLIAM. |
| 1885 PERKS, SYDNEY. | 1889 SELBY, FRANK. |
| 1887 PHILLIPS, WILLIAM DEARLOVE
(<i>Special Prize</i> , 1887). | 1884 SELBY, JOHN BASELY (<i>Bracketted
Special Prize</i> , 1884). |
| 1886 PHYSICK, WALTER FREDERICK
(<i>Institution Prize</i> , 1886). | 1887 SHAW, ARTHUR. |
| 1883 PILDITCH, PHILIP EDWARD. | 1882 SKIPPER, HENRY HERRERT. |
| 1890 PINDER, RICHMOND. | 1890 SLATER, CHARLES FREDERICK. |
| 1889 POCHIN, THOMAS CLEMENT. | 1888 SMITH, FRANK WILLIAM (<i>Driver
Prize</i> , 1888). |

Members who have Passed the Professional Associateship Examination—continued.

1890 SMITH, JAMES.	1887 WADE, HENRY.
1890 SNAILUM, WALTER WADMAN.	1889 WAIN, GEORGE SPARROW.
1891 SOUTTER, ERNEST.	1891 WALKER, JOSEPH ARTHUR.
1890 SPELMAN, WILLIAM WILTON RIX.	1887 WARTON, WILFRED.
1892 SQUIRE, GERALD ROBERT (<i>Institution Prize</i> , 1892).	1890 WATSON, CLAUDE HENRY.
1889 STANTON, FRANCIS CHARLES.	1884 WATSON, JAMES BRUCE.
1888 STUCKÉ, WILLIAM HENRY.	1885 WATSON, JOHN, JUN.
1884 STURGE, THEODORE.	1888 WATSON, RICHARD.
1885 STURGESS, JOHN MOORE.	1892 WEATHERHEAD, DAVID WILKINSON.
1889 STURLEY, ARTHUR DYSON.	1892 WEBB, FREDERICK NOEL.
1890 SUMMERFIELD, JOSEPH CHARLES.	1890 WEBSTER, HUGH CALTHROP.
1887 SWETENHAM, HENRY.	1892 WELLS, WILLIAM HENRY.
1889 TAYLOR, HARRY WILLIAM.	1887 WHALLEY, FREDERICK HERBERT.
1891 TEMPLE, FREDERICK WILSON.	1887 WHEELER, CHARLES TREVOR OGLE.
1892 THOMAS, EDWARD MORGAN DAWSON.	1892 WHEELER, JOHN HENRY.
1891 THURGOOD, ALBERT EDWARD.	1887 WIGHT, NORMAN.
1885 TIFFEN, JOHN HENRY (<i>Institution Prize</i> , 1885).	1891 WILKS, ERNEST STRINGER.
1888 TILLY, HUBERT DOUGLAS.	1891 WILSON, JAMES CALVERT.
1892 TORY, JOHN EDWARD.	1892 WILSON, JOHN HAYES.
1890 TOWNSEND, GEORGE JAMES.	1887 WILSON, WILLIAM EDWARD.
1883 TREADWELL, HENRY JOHN (<i>Driver Prize</i> , 1883).	1891 WINDLEY, HENRY CHADWICK.
1891 TUCKETT, PERCIVAL FOX.	1892 WING, GEORGE STAUNTON.
1886 TURNER, PERCY.	1890 WOOD, CHARLES BRUCE.
1889 TYLER, JAMES WILLIAM.	1890 WOOD, EDWARD BRYAN.
1886 VALE, HENRY.	1892 WOODS, ARTHUR GEORGE.
1892 VENNING, ALFRED JOHN MEYBOHN.	1891 WOODWARD, WALTER HENRY.
1890 VERITY, ERNEST GEORGE.	1886 WOOLNOUGH, JOHN WILLIAM.
	1887 WORTHINGTON, JAMES SCOTT.
	1891 YOUNG, HARRY AUSTIN LINDSAY.

Members Transferred since the publication of the January List from the Class of Professional Associates to that of

Fellows—

BROWN, ALEXANDER BURNETT .	The Bays, Hampton Wick.
GIDDY, OSMAN HORTON . . .	121, Pall Mall, S.W.
GROVER, ARTHUR	38, Woodberry Down, N.
MANN, ROBERT BAGSHAW . . .	29, Great George Street, S.W.
MOULD, GRAHAM HARLEY . . .	35, Great James Street, W.C.

Members who have Died since the publication of the January List.

Fellows—

COBB, ROBERT LAKE	Higham, Kent.
CONNOP, NEWELL	Bradfield Hall, Reading.
LOVEJOY, ALFRED	35, Bucklersbury, E.C.
MCCALL, GEORGE	Market Place, Blackburn.
MULLETT, FREDERICK AUGUSTUS	Albion House, Hyde Park Square, W.
WAINWRIGHT, CHARLES RAWLIN- SON, SEN.	} Shepton Mallet, Somerset.

Professional Associate—

SWINSCOW, HAROLD EDWIN . . .	31, Streatham Hill, S.W.
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Associate—

HIGGIN, WILLIAM HOUSMAN, Q.C.	32, St. Ann Street, Manchester.
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Provincial Committees.

JULY 1st, 1893.

(A.) NORTHERN COUNTIES COMMITTEE.

Chairman.

THOMAS SAMPLE, Bothal Castle, Morpeth, Northumberland.

ARMSTRONG, THOMAS JOHN	14, Hawthorn Terrace, Newcastle.
AYNSLEY, ROBERT JOHN	Gosforth, Newcastle-on-Tyne, Northumberland.
BAINBRIDGE, ROBERT STAGG	Keverstone, near Staindrop, Durham.
BANKS, JOHN	Kendal, Westmoreland.
BIRKETT, TOM	Foxton House, Penrith, Cumberland.
BOLAM, WILLIAM THOMAS	Cross House, Westgate Road, Newcastle.
BOWMAN, JOHN JAMES	Estate Office, Netherby, Carlisle.
BRYDON, ROBERT	The Dene, Seaham Harbour, Durham.
CLARK, JOHN McCCLARE	Haltwhistle, Northumberland.
CLARK, NATHANIEL	Beamish Park, Chester-le-Street, Co. Durham.
CURRY, HENRY JOHN	58, High Street, Stockton-on-Tees.
EADE, ARTHUR WILLOUGHBY } FRENCH }	Feethams, Darlington.
FORSYTH, THOMAS HILLS	39, Northumberland Street, Newcastle-upon-Tyne.
GREEN, ROBERT COWPER	26, Fawcett Street, Sunderland.
HAYTON, JOSEPH WILLIAM	Devonshire Chambers, Carlisle.
HAYTON, PATTINSON	Devonshire Chambers, Carlisle.
HEDLEY, JOHN HUNT	55, John Street, Sunderland.
HEDLEY, THOMAS FENWICK	Sunderland.
HESKETT, WILLIAM JAMES	24, King Street, Penrith, Cumberland.
HOGGARTH, ARTHUR	Kendal, Westmoreland.
HOGGARTH, EDWIN	Kendal, Westmoreland.
HOLME, JOHN	Owlet Ash, Milnthorpe, Westmoreland.
HUDSON, JAMES	Penrith, Cumberland.
JAMES, CHRISTIAN HUGH	Rudchester, Wylam-on-Tyne.
LITTLE, WILLIAM	Hutton Hall, Penrith.
MINTER, WILLIAM	81, Bondgate, Darlington.
NICHOLSON, THOMAS COOKE	24, Grainger Street West, Newcastle.
OLIVER, CHARLES EDWARD	Oakfield, Shotley Bridge, Co. Durham.
PEIRSON, HENRY THOMAS	Branspeth, R.S.O., Co. Durham.
POTTS, JAMES	Stanbeck, Workington, Cumberland.

PUNCHARD, FREDERICK . . .	{ Underley Estate Office, Kirkby Lonsdale, Westmoreland.
RICHARDSON, GEORGE . . .	{ Estate Office, Edenhall, Langwathby, Cumberland.
RODHAM, JOHN	16, Finkle Street, Stockton-on-Tees.
ROWLANDSON, CHRISTOPHER . .	The College, Durham.
RUDMAN, SIDNEY CHARLES . .	Windlestone, Ferry Hill, Co. Durham.
SAMPLE, CHARLES HERBERT . .	Matfen, near Newcastle.
SAMPLE, WILLIAM COLLINGS . .	Bothal Castle, Morpeth, Northumberland.
SCARTH, WILLIAM T.	Raby Castle, Darlington.
STANLEY-DODGSON, STANLEY DICKENSON	{ Estate Office, Somerset House, Whitehaven, Cumberland.
TAYLOR, JOHN WILLIAM . . .	31, Westgate Road, Newcastle.
TOMLINSON, THOMAS	Estate Office, Alnwick Castle.
WALL, GEORGE YOUNG	Exchequer Buildings, Durham.
WALLACE, HENRY	Trench Hall, Gateshead-on-Tyne.
WATT, ALEXANDER	Ravenglass, Carnforth.
WEBSTER, ALEXANDER	100, Highgate, Kendal, Westmoreland.
WELLS, EDWIN	Barnard Castle, Co. Durham.
WHEELER, EDWARD GALTON . .	Swansfield House, Alnwick.
WILSON, SIR JACOB	Chillingham, Alnwick.

Total, 49 Members.

(B.) COUNTIES PALATINE COMMITTEE.

Chairman.

THOMAS TAYLOR WAINWRIGHT, 21, Leigh Street, Liverpool.

ADDIE, PETER	30, Winckley Square, Preston.
BAILEY, LEONARD	Estate Office, Scorton, Garstang.
BANCROFT, HENRY	Kay's Chambers, 26, Cooper Street, Manchester.
BANKS, THOMAS	60, King Street, Manchester.
BARROW, THOMAS ROBERT . .	Arnold House, Windsor Road, Southport.
BATEY, HENRY SIMPSON . . .	51, King Street, Manchester.
BECKWITH, HENRY LANGTON .	14, North John Street, Liverpool.
BELL, ALBERT WILLIAM . . .	18, Bank Street, Accrington.
BERTWISTLE, JAMES	1, Tackett's Street, Blackburn.
BOOTH, JOHN FREDERICK . . .	35, Church Street, St. Helen's.
BOWDEN, JOHN	14, Ridgefield, Manchester.
BRADY, CHARLES ALLDIS . . .	17, Warren Street, Stockport.
BRADY, WILLIAM HOLLINSHED .	17, Warren Street, Stockport.
BRIDGFORD, ERNEST JAMES .	28, Cross Street, Manchester.

BRIDGFORD, COL. ROBERT, C.B.	28, Cross Street, Manchester.
BROCKLEBANK, JOHN	58A, Yorkshire Street, Rochdale.
CAMPBELL, HENRY HUNTER . .	Sutton Hall, St. Helen's.
CARSWELL, WILLIAM	Capesthorpe, Chelsford, Cheshire.
CARTWRIGHT, JOSHUA	Bury, Lancashire.
COCKS, ROBERT	Estate Office, Altrincham, Cheshire.
CORBETT, CHRISTOPHER . . .	9, Albert Square, Manchester.
CROSS, JOHN	77, King Street, Manchester.
CROSS, WILLIAM HASLAM . . .	77, King Street, Manchester.
DAVIES, JOHN	Mollington, Chester.
DAWSON, EDWARD HOWARD . .	41, Market Street, Lancaster.
DORNING, ARTHUR HARRY . .	41, John Dalton Street, Manchester.
DORNING, ELIAS	41, John Dalton Street, Manchester.
EAGLE, WILLIAM	77, King Street, Manchester.
EARLE, THOMAS ALGERNON . .	90, King Street, Manchester, and Liverpool.
EARNSHAW, JACOB	36, South King Street, Manchester.
EASTHAM, JAMES COOK	The Town Hall, Manchester.
EVANS, CHARLES LEE	Norton Hill, Runcorn, Cheshire.
FAIR, JACOB WILSON	{ Haigh Hall, Wigan, and 8, Winckley Street, Preston.
FAIR, JAMES STRETTON	4, Winckley Street, Preston.
FAIR, THOMAS	Estate Offices, Lytham.
FAIRCLOUGH, WILLIAM	60, King Street, Manchester.
FLETCHER, THOMAS	Dukenhalgh, Clayton-le-Moors, near Accrington.
FOWLER, HENRY	63, Dale Street, Manchester.
GRADWELL, ARTHUR RICHARD .	10, Richmond Terrace, Blackburn.
HALL, CHARLES EDWARD	The Albany, Old Hall Street, Liverpool.
HANSON, AMOS	35, Church Street, St. Helen's.
HARGRAVES, STEPHEN	20, St. Ann's Square, Manchester.
HOLDEN, JOHN	64, Cross Street, Manchester.
HOLMES, JAMES	23, Delamere Street, Ashton-under-Lyne.
HOLT, GEORGE HENRY	10, Richmond Terrace, Blackburn.
HOPKINSON, ALFRED	Castle Chambers, Bury, Lancashire.
HURRELL, JOHN WEYMOUTH . .	25, Brazennose Street, Manchester.
JACKSON, CHARLES	23, Brazennose Street, Manchester.
JONES, ISAAC MATTHEWS	The Town Hall, Chester.
KIRBY, EDMUND	5, Cook Street, Liverpool.
LANCASTER, CHARLES HOLLAND	York Buildings, 14, Dale Street, Liverpool.
LARMUTH, GEORGE HORATIO . .	{ Wilton Chambers, 10, St. Ann's Square, Man- chester.
LINAKER, CHARLES EDWARD . .	Frodsham, Chester.
MCCALLUM, JAMES BRADDON . .	{ Leamington Street and Municipal Offices, Black- burn.
MCCRACKEN, WILLIAM	Crewe.

MACIVER, COLIN	23, Bold Street, Warrington.
MAXWELL, FRANÇOIS WILLIAM	41, Corporation Street, Manchester.
MAXWELL, JAMES	41, Corporation Street, Manchester.
MELLER, WILLIAM GALLOWAY	22, Cooper Street, Manchester.
MILLS, WILLIAM EDWARD	49, Hamilton Square, Birkenhead.
MURGATROYD, JAMES	23, Strutt Street, Manchester.
MYRES, JOHN JAMES	15, Chapel Street, Preston, and Blackpool.
NEVETT, FRANCIS WALTER	54, Claremont Terrace, Fulwood, Preston.
NEVETT, THOMAS	41, Fishergate, Preston.
NUTTALL, THOMAS	12, Market Street, Bury.
OWEN, RICHARD NEWSHAM	Haughton, Tarporley.
PAIN, COARD SQUAREY	14, North John Street, Liverpool.
PARK, PHILIP SAMUEL	18, Winckley Street, Preston.
PARK, WILLIAM PHILIP	18, Winckley Street, Preston.
PARKER, THE HON. CECIL THOMAS	} Eccleston, Chester.
PARMETER, FRANK	
PEARSON, ALFRED	Estate Offices, Dukinfield.
PIERSON, CHARLES	29, Cooper Street, Manchester.
PRICE, JOHN	Lark Lane, Toxteth Park, Liverpool.
RABY, JOSEPH WALKER	78, Cross Street, Manchester.
RADFORD, WILLIAM	1, Princess Street, Manchester.
RADFORD, WILLIAM HAROLD	1, Princess Street, Manchester.
REA, JOHN MARCUS BEAUMONT	8, Winckley Street, Preston.
ROBINSON, GEORGE EDWARD	{ 9, Tackett's Street, Blackburn, and Clitheroe Castle.
ROPER, JOHN SIMPSON	
SCOVELL, JOHN	Oulton Park, Tarporley, Cheshire.
SHELMERDINE, HENRY	{ Estate Offices, L. & Y. Railway, Hunt's Bank, Manchester.
SMITH, JOHN THOMPSON	
STOCKS, FREDERICK WILLIAM	Mere, Knutsford.
SUTHERS, JAMES	2, White Hart Fold, Todmorden.
TAYLOR, THOMAS WALTERS	25, Brazennose Street, Manchester.
THOMAS, GLEGGE	{ Cheshire Lines Committee, Central Station, Liverpool.
THOMPSON, FRANCIS WILLIAM	
VEEVERS, RICHARD	Wonnington, Fulwood Park, Preston.
WALSH, ALBERT MELLOR	19, King Edward Street, Macclesfield.
WATTS, SAMUEL LINGARD	Town Hall Buildings, King Street, Manchester.
WATTS, WILLIAM JOHN	Town Hall Chambers, King Street, Manchester
WHALLEY, HENRY SHAW	90, Northgate Street, Chester.
WHITE, JOHN	Warrington, Lancashire.
WILSON, THOMAS SILK	Albert Square, Manchester.
WILSON, WILLIAM HENRY	29, Fountain Street, Manchester.

WOLFENDEN, THOMAS . . .	54, Hall Street, Southport.
WRENNALL, WILLIAM . . .	9, Harrington Street, Liverpool.
YOUNG, EDWARD HERBERT . .	Central Chambers, South Castle Street, Liverpool.
YOUNG, HARRY AUSTIN LINDSAY	Bold Hall, St. Helen's.
YOUNG, OSWALD WILLIAM . .	Mersey Docks and Harbour Board, Liverpool.

Total, 102 Members.

(C.) YORKSHIRE COMMITTEE.

Chairman.

THOMAS FENWICK, Leeds.

ABBEY, JOE BURMAN . . .	28, John William Street, Huddersfield.
ABBOTT, ROBERT THOMAS G. .	Whitley House, Malton.
ARMISTEAD, RICHARD . . .	118, Main Street, Bingley.
ARMYTAGE, GEORGE JOHN . .	Kirklees Park, Brighouse.
BAINES, MATTHEW TALBOT . .	Estate Office, Brodsworth, Doncaster.
BATEMAN, JOHN	Hall Garth, Clapham.
BELL, ALBERT WILLIAM. . .	18, Bank Street, Accrington.
BILSON, JOHN	23, Parliament Street, Hull.
BOTTERILL, WILLIAM	23, Parliament Street, Hull.
BRADLEY, WILLIAM EDWARD .	The Hall, Ebberston, York.
BRODRICK, FREDERICK STEAD .	Cogan Chambers, Bowl Alley Lane, Hull.
BROSTER, ROBERT BUCK . . .	6 and 8, Temple Street, Keighley.
BUCKLEY, GEORGE	Tower Chambers, Halifax.
CARRINGTON, THOMAS	Endcliffe Court and Kiveton Park, near Sheffield.
CHOWEN, HENRY LLEWELLYN .	Londesborough Estate Office, Market Weighton.
CLARE, EDWARD LOVELL . . .	Yorkshire Bank Chambers, Bradford.
CLARKE, CHRISTOPHER	Charlcot, Bedale.
CLARKE, JOHN WILLIAM . . .	Guisbrough.
CLUTTON, WILLIAM JAMES . .	The Mount, York.
COWGILL, BRIAN BOLLANS HIRD	13A, Piece Hall Yard, Bradford.
COX, EDWARD SAMUEL	3, New Street, York.
CROWTHER, JOHN HERBERT . .	38, New Street, Huddersfield.
CUNDY, HUBERT JOHN	Wetherby and Leeds.
DEMETRIADI, THOMAS MARSDEN	28, John William Street, Huddersfield.
DENT, RALPH JOHN.	The Cedars, Harrogate.
DRANSFIELD, HENRY BROOK . .	12, 13, and 14, Estate Buildings, Huddersfield.
EASTON, JOHN H.	Bowl Alley Lane, Hull.
ELLISON, MICHAEL	Duke of Norfolk's Estate Office, Sheffield.
EVANS, WILLIAM	St. John Street, Beverley.
FARRER, JOHN	Oulton, near Leeds.

FILLINGHAM, EDWARD . . .	Spring Bank, Hull.
FLOCKTON, THOMAS JAMES. . .	15, St. James' Row, Sheffield.
FORBES, CHARLES MANSFELDT . . .	14, New Street, York.
FOWLER, FREDERICK.	St. James' Street, Sheffield.
FOWLER, REGINALD WILLIAM . . .	8, George Street, Sheffield.
FOX, CHARLES JAMES	22, George Street, Halifax.
FRANCE, ARTHUR ALDERSON . . .	99, Swan Arcade, Bradford.
FRANCE, CHARLES	99, Swan Arcade, Bradford.
FRYER, GEORGE	{ 15, Parliament Street, Hull, and Rose Villa, Bishop Wilton, near York.
GELDER, WILLIAM ALFRED . . .	12, Bowl Alley Lane, Hull.
GOTT, CHALRES	8, Charles Street, Bradford.
GOTT, CHARLES HENRY	8, Charles Street, Bradford.
GOTT, FRANK.	3, East Parade, Leeds.
GREAVES, JOHN OLDROYD . . .	69, Westgate, Wakefield.
GREGSON, WILLIAM	Baldersby, S.O., Yorks.
HANSON, JOHN HENRY	20, Ramsden Street, Huddersfield.
HEBBLETHWAITE, LOUIS	Conservancy Buildings, and Anlaby Road, Hull.
HEPPER, JOHN	East Parade, Leeds.
HINDLE, JOHN	24, Bank Street, Bradford.
HOBSON, HARRY	Swinefleet, near Goole.
HORNSBY, ROBERT	Estate Office, Hovingham.
HORSFALL, RICHARD	Post Office Buildings, George Street, Halifax.
HORSFALL, RICHARD EDGAR . . .	Post Office Buildings, George Street, Halifax.
INNOCENT, CHARLES JOHN . . .	Sheffield.
JACKSON, BENJAMIN WHITEHEAD	George Street, Halifax.
JACKSON, SAMUEL	33, Kirkgate, Bradford.
JOLLY, JOHN HAWKINS	29, East Mount Road, York.
JONES, JAMES WILLIAM	54, Caledonian Road, Leeds.
KAYE, JOHN EDWARD	Bretton Lodge, Wakefield.
KIRKBY, HERBERT	Lythe Hall, near Whitby.
LOFTHOUSE, ROGER	62, Albert Road, Middlesborough-on-Tees.
MARSHALL, PETER	8, George Street, Sheffield.
MASSIE, FRANK	Tetley House, Kirkgate, Wakefield.
MAY, THOMAS HENRY	6, Times Buildings, Bow Street, Sheffield.
MILNES, ELI	99, Swan Arcade, Bradford.
MITCHELL - WITHERS, JOHN } BRIGHTMORE }	Surrey Street, Sheffield.
NEWSAM, SAMUEL WATERHOUSE	3, East Parade, Leeds.
OLDROYD, LINLEY	5, Oxford Place, Leeds.
PEIRSON, GEORGE BRODBRICK . . .	Baldersby, Thirsk.
PIERCY, HENRY ONSLOW	The Elms, Lowthorpe.
POPPEL, JOHN	Groves Hall, Sleights, near Whitby.
RICHARDSON, JOHN	Methley Park, Leeds.

RUTHERFORD, JAMES . . .	Kirk-leatham, Redcar.
SAMPSON, GEORGE . . .	Beauchief Abbey, Sheffield.
SAMPSON, WILLIAM . . .	Beauchief Abbey, Sheffield.
SMITH, FREDERIC ELLISON . .	Tanfield Chambers, Bradford.
SMITH, HARRY RUSSELL . . .	Exchange Buildings, Bradford.
SMITH, JOSEPH	Tanfield Chambers, Bradford.
SMITH, WHEATER	17, Hampton Place, Bradford.
SWETENHAM, HENRY	Nidd, Ripley, Yorkshire.
TIFFEN, JOHN HENRY	Conservancy Buildings, Hull.
TIFFEN, JOSEPH	Conservancy Buildings, Hull.
TODD, WILLIAM HENRY . . .	County Buildings, Hull.
WADE, JOHN	10, Pitt Street, Barnsley.
WALKER, FRANCIS ELLIOTT . .	Blake Street, York.
WELLSTED, WILLIAM HENRY .	Manor Street, Hull.
WHITE, ALFRED EDWARD . . .	Town Hall, Hull.
WILDE, WILLIAM	Brockett House, Sharrow, Sheffield.
WINN, THOMAS	5, Park Lane, Leeds.
WOODHEAD, WILLIAM BOOTH .	18, Exchange Buildings, Bradford.
WRIGHT, JAMES	Rawcliffe, near Selby.

Total, 92 Members.

(D.) SALOP AND HEREFORD COMMITTEE.

Chairman.

HENRY JAMES WYLEY, Bridgnorth, Salop.

APPERLEY, WILLIAM HARVARD .	Hereford.
ASHDOWN, AUGUSTUS HARDING .	Uppington, near Willington, Salop.
BATHER, JOHN T.	9, The Square, Shrewsbury.
BROWN, JOHN POWLES	21, East Street, Hereford.
BURD, LAURENCE	Mayfield, Shrewsbury.
BURD, TIMOTHEUS HENRY . . .	School Gardens, Shrewsbury.
DAVIS, ALFRED THOMAS	Shire Hall, Shrewsbury.
DE WEND, WILLIAM FENTON . .	New Market Buildings, Bridgnorth.
DODGSON, WILFRED LONGLEY .	{ The Court, Cleobury North, Bridgnorth, and 55, Broad Street, Ludlow.
EVANS, WILLIAM ERNEST . . .	School Gardens, Shrewsbury.
FENN, THOMAS	Downton Castle, Ludlow.
GODSELL, GEORGE HERBERT . .	Palace Chambers, King Street, Hereford.
GRIFFITHS, EDWARD, JUN. . . .	Knockin, near Oswestry.
HALL, WILLIAM TIMOTHY	Talbot Chambers, Shrewsbury.
HAYWOOD, HENRY	9, West Street, Hereford.

HAYWOOD, WILLIAM MATHEWS.	9, West Street, Hereford.
HICKMAN, THOMAS	Leaton, near Shrewsbury.
LANE, CECIL NEWTON	Whiston Hall, Shifnal, Salop.
LAWFORD, WILLIAM ROBINSON .	Underhill, Oswestry.
LORING, JOHN	Hinstock, Market Drayton.
MADGE, JOHN	Hope End Estate Office, Ledbury.
MILLYARD, JOHN WILLIAM . .	Estate Office, Saltmarshe Castle, Bromyard.
MORRIS, EDWARD HENRY . . .	Chirbury, Salop.
NEWILL, ROBERT HENRY . . .	Lydbury North, Shropshire.
OWEN, HENRY	Dana Chambers, Shrewsbury.
PALAMOUNTAIN, JOSEPH WILLIAM	Cloverley Estate Office, Whitechurch, Salop.
PARKER, JOHN	Mansion House, Hereford.
SELBY-BIGGE, CHARLES P. O. .	Bcurton Estate Office, Much Wenlock, Shropshire.
SOUTHWELL, CHARLES JOSIAH .	Hook Field House, Bridgnorth, Salop.
THURSFIELD, THOMAS HOWELLS	Barrow, Brosely, Salop.
TOWER, BROWNLOW RICHARD } CHRISTOPHER }	Bridgewater Estate Office, Ellesmere, Salop.
WARD, FELIX JOHN	Crowsmoor, Aston-on-Clun, Salop.
WOLLEY, THOMAS JOHN	Clungunford Estate Office, Aston-on-Clun, Salop.
WYLEY, WILLIAM JOHN	2, School Chambers, Shrewsbury.

Total, 35 Members.

(E.) DERBY AND STAFFORD COMMITTEE.

Chairman.

CHARLES HENRY INGE, Broom Leasoe, Whittington, Lichfield.

ARNOLD, WILLIAM	23, George Street, Tamworth.
BARNES, GEORGE FREDERICK . .	{ Estate Office, Wingerworth Hall, near Chester- field.
BOOTHBY, HENRY VERNON . . .	Estate Office, Keele, and Newcastle-under-Lyne.
BRAILS福德, HENRY	Park Nook, near Derby.
BYRON, AUGUSTUS WILLIAM . .	Sutton Estate Offices, Duckmanton, Chesterfield.
DUNCALFE, HENRY GEORGE . . .	102, Darlington Street, Wolverhampton.
EARDLEY, JOHN WILLIAM . . .	Swanwick Colliery, Alfington, Derbyshire.
EAYRS, JOHN THOMAS	Town Hall, West Bromwich.
FAWKES, ALGERNON	Sudbury, Derby.
FODEN, EDWARD ANTROBUS . .	Teddesley Estate Office, Penkridge, Staffs.
FORSHAW, EDWARD	Basford, Stoke-upon-Trent.
FULLER, THOMAS ALFRED . . .	The College, All Saints, Derby.

HARDY, RICHARD THOMAS ASH .	Estate Offices, Marchington, Staffs.
HEATON, GEORGE HERBERT	Endon, near Stoke-upon-Trent.
HUBBERSTY, HENRY ALFRED	Buxton, Derbyshire.
HUSSEY, ROBERT	Brereton, Rugeley.
JEUDWINE, WILLIAM WYNNE .	Chesterfield.
LYNAM, CHARLES	Stoke-on-Trent.
MARGERESON, CHARLES FREDERIC	New Square, Chesterfield.
MARTIN, GILSON	Chatsworth, Chesterfield
MURRAY, GILBERT	Elvaston Estate Office, Derby.
MYNORS, WALTER CHARLES TOWERS	Little Ingestre, Stafford.
NEVITT, GEORGE	Church Street, Rugeley.
NOCK, BENJAMIN BOWEN . .	48, Queen Street, Wolverhampton.
PARKIN, JOHN ROBERT . . .	Idridgehay, near Derby.
SAMPSON, GEORGE	Beauchief Abbey (near Sheffield), Derbyshire.
SANDY, HENRY	Newport Road, Stafford.
SHAW, JOHN	College Place, Derby.
SHAW, JOHN, JUN. . . .	The College, All Saints, Derby.
THORPE, CHRISTOPHER . . .	Chesterfield.
TURNOR, EXSUPERIUS WESTON .	The Green, Stafford.
WHITTON, JOHN WILLIAM .	2, St. James's Street, Derby.
WINTERTON, HARRY JOHN CAMPION	Walton Warren, Burton-on Trent.
WINTERTON, WILLIAM MOXON .	St. Mary's Chambers, Lichfield.
WRIGHT, JAMES	Irongate, Derby.

Total, 36 Members.

(F.) NOTTINGHAM AND LINCOLN COMMITTEE.

Chairman.

JOHN TURNER, The Grange, Ulceby, Lincs.

ABBOTT, WILLIAM	Holbeach, Lincs.
BAILEY, WILLIAM SMITH . .	4, Kirkgate, Newark-upon-Trent.
BARNES, JOHN WILLIAM JAMES .	Brougham Chambers, Wheeler Gate, Nottingham.
BEAUMONT, CHARLES	East Bridgford, near Nottingham.
BEAUMONT, GEORGE	East Bridgford, near Nottingham.
BELL, JOSEPH ASKEW	Rufford Estate Office, Ollerton, Notts.
BIRKEIT, WILLIAM	Don Villa, Cleethorpe Road, Grimsby.
BOWLEY, JOHN CROSS	Beeston, Nottingham.
CALVERT, ARTHUR RICHARD . .	14, Low Pavement, Nottingham.
CORBY, JOSEPH BOOTHROYD . .	Scotgate, Stamford.

CROFTS, EWAN NEVILLE . . .	Leadenham, Grantham, Lincs.
EVANS, ROBERT	Eldon Chambers, Wheeler Gate, Nottingham.
GILPIN-BROWN, WILLIAM DUNDAS	Metheringham, Lincs.
HAWLEY, HENRY MICHAEL . . .	Tumby Lawn, Boston.
HAYNES, HENRY	Estate Office, Clifton, Nottingham.
HIGGINS, FREDERIC	Alford, Lincs.
HINE, GEORGE THOMAS	Victoria Street, Nottingham.
HUSKINSON, THOMAS WILLIAM .	Epperstone Manor, Nottingham.
HUSKINSON, WILLIAM LAMBE . .	Manor House, Epperstone, Notts.
JACKSON, FREDERICK WILLIAM .	18, Low Pavement, Nottingham.
KINGSTON, SAMUEL	Spalding, Lincs.
LEGARD, DIGBY CHARLES . . .	Tealby, Market Rasen, Lincs.
LISTER-KAYE, CHARLES WILKIN- SON	} Osberton, Worksop, Notts.
MANNERS, HENRY ALFRED . . .	
MARTIN, WALTER	Wainfleet, Lincs.
MASON, CHARLES	Westgate, Louth, Lincs.
MORRIS, CHARLES	The Lodge, Radcliffe-on-Trent, Notts.
NEALE, CHARLES JAMES	High Oakham, Mansfield, Notts.
PARKIN, WILLIAM	Babworth, Retford, Notts.
RICHARDSON, CHARLES	13, Barn Hill, Stamford, Lincolnshire.
RICHARDSON, JAMES	13, Barn Hill, Stamford.
TINDALL, CHARLES WILLIAM . .	Scawby, Brigg, Lincs.
TURNER, FREDERICK JOHN . . .	Mansfield Woodhouse, Notts.
TURNER, THOMAS WARNER . . .	Welbeck Abbey, Worksop, Notts.
TURTON, EDWARD JAMES	Horkstow, Barton-on-Humber, Lincolnshire.
VALLANCE, ROBERT FRANK . . .	Mansfield, Notts.
WALKER, GEORGE BOOTH	Wainfleet, R.S.O., Lincolnshire.
WALKER, HERBERT	Newcastle Chambers, Angel Row, Nottingham.
WALKER, JOSEPH	Lenton Avenue, The Park, Nottingham.
WALKER, JOSHUA	Market Place, Retford, Notts.
WIGRAM, JOHN	South Collingham, Newark, Notts.
WOOLLEY, REGINALD	{ Silver Street, Lincoln, and South Collingham, Notts.
WOOLLEY, THOMAS CECIL SMITH	
WORDSWORTH, ROBERT WALTER	Whitemoor, Ollerton, Nottinghamshire.
WRIGHT, CHARLES WILLIAM . .	Wollaton.
WRIGHT, WILLIAM	Wollaton, Notts.

Total, 47 Members.

(G.) MONMOUTHSHIRE AND SOUTH WALES COMMITTEE.

Chairman.

ROBERT FORREST, Windsor Estate Office, St. Fagan's, near Cardiff.

BLAKE, GEORGE	Stradey Estate Office, New Road, Llanelly.
BLOSSE, EDWARD F. LYNCH	Charles Street Chambers, Cardiff.
BROWN, THOMAS FORSTER	Guildhall Chambers, Cardiff.
COLES, SAMUEL HOOD COWPER	Penmyarth, Crickhowell, South Wales.
CORBETT, EDWARD WORTLEY } MONTAGUE }	Bute Estate Office, Castle Street, Cardiff.
DAVID, EDMUND USHER	Llandaff, near Cardiff.
DAVIES, JOHN MORGAN	Froodyale, Llanwrda, South Wales.
EVANS, ARTHUR OWEN	Town Hall, Pontypridd.
GRAHAM, ARTHUR GORE	Victoria Chambers, Newport, Mon.
GRAHAM, WILLIAM	Victoria Chambers, Newport..
GRIFFITHS, WILLIAM	Gelley Wern Estate, Llanelly, Carmarthenshire.
HARPUR, WILLIAM	Town Hall, Cardiff.
HITCHCOX, WILLIAM	Victoria Chambers, Newport.
LLEWELLIN, DAVID MORGAN	Glanwern Offices, Pontypool.
OWEN, THOMAS HENRY	High Street, Haverfordwest, Pembrokeshire.
OWEN, THOMAS RULE	High Street, Haverfordwest, Pembrokeshire.
PRICE, FRANCIS HOLBORROW } GLYNN }	Longlands Place, Swansea.
REES, ITHEL TREHARNE	Guildhall Chambers, Cardiff.
REES, WILLIAM GEORGE	Holly House, Newport.
REES, WILLIAM JOHN	Cradock Street, Swansea.
RIGG, CHARLES	24, High Street, Cardiff.
ROONEY, SAMUEL	Caledonian Chambers, Cardiff.
ROSSER, WILLIAM	{ Rhydyrhelig, Swansea, and Llanelly, Carmarthen- shire.
SHEPPARD, OSBORNE	Glynelydach, Neath.
TANNER, WILLIAM	Lynhurst, Newport.
THOMAS, GEORGE	Queen's Chambers, Cardiff.
THOMAS, WILLIAM	Castlemartin Court, near Pembroke.
WANKLYN, PHILLIP ENDELL	Dixton, near Monmouth.
WARING, CHARLES EDWARD	1, Charles Street, Crockherbtown, Cardiff.
WILKINS, WILLIAM	Greenfield Villas, Llanelly.
WILLIAMS, GERALD GARNOUS	St. John's Mount, Brecon.

Total, 32 Members.

(H.) WARWICK AND WORCESTER COMMITTEE.

Chairman.

GEORGE SPENCER MATHEWS, 15, Waterloo Street, Birmingham.

BETRIDGE, EDWARD	28, Waterloo Street, Birmingham.
BUCK, ALBERT	Worcester.
BUCK, HERBERT WILSON	Pierpoint Street, Worcester.
CLARKE, ALFRED DUDLEY	Estate Office, Abberley, Stourport.
CLARKE, RICHARD	Parish Offices, Birmingham.
COUCHMAN, HENRY BOTELER	5, Avon Place, Warwick.
COUCHMAN, ROBERT EDWARD	35, Paradise Street, Birmingham.
DEER, EDWARD	Stratford-on-Avon.
DONNE, HENRY	Leek Wootten, Warwick.
EVANS, WALTER PEARSON	Caldwell, Nuneaton.
EVERILL, FRANK	59, Foregate Street, Worcester.
FAYERMAN, GEORGE METCALF	88, The Parade, Leamington.
FIDDIAN, WILLIAM	Town Hall Offices, Stourbridge.
FOSBERY, WILLIAM THOMAS EXHAM	Warwick.
FOWLER, GERARD EDMUND	93, New Street, Birmingham.
FOWLER, HENRY	6, Waterloo Street, Birmingham.
FOWLER, RICHARD	118, Colmore Row, Birmingham.
FOWLER, WILLIAM	{ 69, Temple Row, Birmingham, and Sutton Coldfield.
GIBSON, DENSTON	98, New Street, Birmingham.
GODFREY, ROBERT	Valentine Road, King's Heath, Birmingham.
GRIMLEY, EDWIN FEARNE	40, Temple Street, Birmingham.
GRIMLEY, THOMAS	40, Temple Street, Birmingham.
HEDLEY, ROBERT WILKIN	31A, Colmore Row, Birmingham.
HENDRIKS, HENRY	34, Waterloo Street, Birmingham.
HOLBECH, ROBERT NEVILLE	21, Bennett's Hill, Birmingham.
JENKINS, OSWALD	57, Colmore Row, Birmingham.
JOSELAND, CHARLES	Bank Buildings, Kidderminster.
KENWRICK, GEORGE	83, Colmore Row, Birmingham.
KING, HENRY	Stourbridge.
LUDLOW, WALTER ROBERT	18, New Street, Birmingham.
MARGETTS, JOHN WILLIAM	12, High Street, Warwick.
MASON, WILLIAM ARTHUR	31A, Colmore Row, Birmingham.
MATHEWS, WILLIAM	15, Waterloo Street, Birmingham.
PARKER, WILLIAM HENRY	3, Foregate Street, Worcester.
PEMBERTON, CHARLES OLIVER } PAGET	{ 69, Temple Row, Birmingham.

RAIKES, COL. GEORGE WHITT- INGTON	}	Ragley Estate Office, Alcester, Redditch.
RIGHTON, EDWARD GRANTHAM .		
ROBINS, WILLIAM HENRY . .		82A, New Street, Birmingham.
RODERICK, JOHN		2, Temple Row, West Birmingham.
SANDERS, THOMAS		148, Worcester Street, Bromsgrove.
SMITH, FRANK		37, Cannon Street, Birmingham.
SMITH, FRANK WILLIAM . .		Beauchamp Hill, Milverton, Leamington.
SMITH, WILLIAM		Abbott's Salford, Evesham.
STALLARD, WILLIAM		Estate Office, Madresfield, Malvern Link.
TOMSON, JAMES JOHN . . .		The Chalet, King's Norton, near Birmingham.
WHITTINDALE, JAMES . . .		The Poplars, Kenilworth.
WILLIAMS, EDWARD		City Chambers, 82, New Street, Birmingham.
WILLMOT, GEORGE DYOTT . .		6, Waterloo Street, Birmingham.
WILLMOT, JOHN		6, Waterloo Street, Birmingham.

Total, 50 Members.

(1.) LEICESTERSHIRE, NORTHAMPTONSHIRE, AND RUTLAND COMMITTEE.

Chairman.

EDWARD KNAPP FISHER, Market Harborough, Leicestershire.

BLETSOE, HENRY HOPKINSON .	Thrapstone, Oundle.
BOLAM, CHARLES GODFREY . .	{ Estate Office, Boughton House, Kettering. Northamptonshire.
CAVE, HENRY H.	
CAVE, THOMAS NEWMAN . . .	Horton, Northampton.
CLARE, EDWARD LOVELL . . .	33, Friar Lane, Leicester.
CLARE, WILLIAM HARCOURT LOVELL	{ 33, Friar Lane, Leicester.
CLOUGH-TAYLOR, HORACE GEORGE	
CUTLAN, JOHN ELLIS	Market Square, Wellingborough.
DICKSON, THOMAS ARTHUR . .	Estate Office, Overstone Park, Northampton.
DRAPER, ARTHUR THOMAS . .	39, Friar Lane, Leicester.
EDWARDES, CHARLES BIDWELL .	The Precincts, Peterborough.
EVERARD, JOHN BREEDON . . .	6, Millstone Lane, Leicester.
FISHER, CHARLES BROWNING . .	Hill Crest, Market Harborough.
FORMBY, GEOFFREY OSWALD . .	Exton, Oakham.

GERMAN, GEORGE	Packington House, Ashby-de-la-Zouch.
GERMAN, HARRY	Loughborough and Ashby-de-la-Zouch.
GERMAN, JOHN	Ashby-de-la-Zouch.
GODDARD, JOSEPH	Market Street, Leicester.
GOODACRE, JOHN	5, Friar Lane, Leicester.
GOODACRE, ROBERT JOHNSON	Friar Lane, Leicester.
GREEN, VALENTINE	Knipton, near Grantham.
HAMPTON, WILLIE THOMAS	Coalville, Leicester.
HINCKS, HENRY THORP	Blaby, Leicester.
HODSON, GEORGE	Town Hall, Loughborough.
HOLLOWAY, HARRY HOWNAM	Market Harborough.
HUMPHREYS, HENRY	Woodhouse, Loughborough.
HUMPHREYS, JOHN HENRY	Woodhouse, Loughborough.
JOYCE, JOHN HALL	{ Blackfordby, Leicestershire, near Burton-on-Trent.
LAW, EDMUND	29, Abingdon Street, Northampton.
LYSTER, THOMAS RICE SOMERVILLE	{ Bedford Office, Thorney, Peterborough.
MARSON, THOMAS	Higham, Hinckley, and Leicester.
MARTIN, ROBERT FREWIN	Mountsorrel, Loughborough.
MERRY, THOMAS	2, Guildhall Road, Northampton.
MILES, WILLIAM FREDERICK	37, Friar Lane, Leicester.
NORMAN, CECIL MANNERS	Huncote House, Leicester.
NORTON, THOMAS HERBERT	Milton Estate Office, Priestgate, Peterborough.
PERKINS, JOSEPH	Laughton, Rugby.
ROLLESTON, JOHN FOWKE } LANCELOT	Grey Friars, Leicester.
ROLLESTON, WILLIAM GUSTAVUS } STANHOPE	Grey Friars, Leicester.
ROYCE, DAVID NEEDHAM	Oakham.
ROYCE, JOHN	Oakham.
SEBASTIAN-SMITH, CHARLES	Leicester.
SCRIVEN, RICHARD GEORGE	Castle Ashby, Northampton.
THORPE, JOHN	Nailstone, Hinckley.
THORPE, WILLIAM	Nailstone, Hinckley.
WADE, GEORGE TEMPEST	Halford Street, Leicester.
WOOLLEY, WILLIAM EDWARD	Loughborough.

Total, 48 Members.

(J.) CAMBRIDGE, HUNTINGDON, NORFOLK, AND
SUFFOLK COMMITTEE.

Chairman.

JOHN CARTER JONAS, 27, Market Hill, Cambridge.

ATKINS, SYDNEY GEORGE . . .	The Hall, Coston, Wymondham, Norfolk.
BACON, FRANK MACE . . .	Attleborough, Norfolk.
BACON, HORACE . . .	Attleborough, Norfolk.
BAILEY, HARRY DAVID CHINERY	Fundenhall Grange, near Wymondham, Norfolk.
BARKER, CALEB . . .	Estate Office, Shadwell, Thetford.
BECK, ARTHUR CLEMENT . . .	Castle Rising, King's Lynn, and Sandringham.
BECK, EDWARD WILLIAM . . .	City Chambers, Norwich.
BECK, FRANK REGINALD . . .	Sandringham.
BIDWELL, CHARLES . . .	Ely, Cambs.
BIRD, JOHN . . .	Brampton, Huntingdon.
BLENCOWE, GEORGE . . .	Bury St. Edmund's.
BOA, ANDREW . . .	Great Thurlow, near Newmarket.
CHALK, HENRY PHILIP . . .	Linton, Cambridgeshire.
COOTE, GEORGE . . .	Smeetham Hall, Sudbury.
DAVEY, JOHN GEORGE ELLIS .	Holkham, Norfolk.
DAVIS, CHARLES EDWARD . .	Kirtling, near Newmarket.
EAGLAND, WILLIAM FRANCIS .	7, Upper Surrey Street, Norwich.
EDWARDES, CHARLES BIDWELL.	The Precincts, Peterborough.
FALCON, MICHAEL . . .	Horstead House, Norfolk.
FERGUSSON, JAMES . . .	Livermere, Bury St. Edmund's.
FREUER, WILLIAM . . .	West Rudham, Swaffham.
GARRARD, NORTON BURROUGHS.	Cranley Hall, Eye.
GAYFORD, HENRY JOHN . . .	Estate Office, East Raynham, Norfolk.
GAZE, THOMAS WILLIAM . . .	Frenze Hall, Diss, Norfolk.
GRAIN, ARTHUR TRESS . . .	2, St. Andrew's Hill, Cambridge.
HAWKINS, CHARLES . . .	Downham Market, King's Lynn.
HORNOR, CHARLES JARED . . .	32, Prince of Wales Road, Norwich.
HORNOR, FRANCIS . . .	Queen Street, Norwich.
IRELAND, EDWIN BENJAMIN .	Guestwick, East Dereham.
JONAS, HARRY MARSHALL . .	27, Market Place, Cambridge.
LAURANCE, JOHN . . .	Sexton Barns, Peterborough.
LITTLE, WILLIAM CUTLACK . .	Stag's Holt, March, Cambs.
LOOKER, JOHN . . .	High Street, Huntingdon.
MILLS, SAMUEL MEALING . . .	Orford Hill, Norwich.
MORGAN, BENJAMIN BRAUFORD .	6, Bank Street, Norwich.
MOYES, JOHN HELENUS . . .	26, Trinity Street, Cambridge.
PELLS, ARTHUR . . .	Beccles and Lowestoft.

PEPPERCORN, JOHN HUTCHINSON	Manor House, Eaton Socon, St. Neot's.
PREEDY, FREDERICK	Caldecot, St. Neot's.
RIX, GEORGE KERRY	Somerleyton, near Lowestoft.
ROSE, THOMAS	13, Bank Street, Norwich.
ROWE, RICHARD REYNOLDS . .	Park House, Cambridge.
SALTER, WILLIAM HERBERT . .	The Hall, Attleborough, Norfolk.
SCOTT, AUGUSTUS FREDERIC . .	24, Castle Meadow, Norwich.
SCOTT, HENRY LACY	Bury St. Edmund's.
SCRIVEN, CHARLES HERBERT . .	Bank Plain, Norwich.
SIMPSON, ROBERT THOMAS . . .	Horsecroft, Bury St. Edmund's.
SPELMAN, CLEMENT CHARLES RIX	St. Giles' Street, Norwich.
SPURLING, HENRY	81, Prince's Street, Ipswich.
UPCHER, EDWARD BERNERS . . .	Kirby Cane, Norfolk.
WATERS, FRANK	1, Sidney Street, Cambridge.
WILKIN, HORACE MARTIN	King's Lynn.
WOODFORDE, LIONEL BURNET . .	Merton, Thetford, Norfolk.
WRIGHT, THOMAS	Post Office Terrace, Cambridge.
WRIGHT, WILLIAM EDWARD . . .	King's Lynn.

Total, 56 Members.

(K.) BERKS, BUCKS, AND OXON. COMMITTEE.

Chairman.

DRYLAND HASLAM, 17, Friar Street, Reading.

ADKIN, CHARLES DUNCAN	Wantage, Berks.
BAKER, JOHN	High Street, Slough, Bucks.
BEEVER, WILLIAM FREDERICK HOLT	} Greenlands Estate Office, Henley-on-Thames.
BENNETT, GEORGE	
BINGHAM, ALFRED JOHN	Nalder Hill House, Newbury.
BRUCE, ROBERT KNIGHT	Mentmore Estate Office, Leighton Buzzard.
BUCKLAND, FRANK BOWRY	Windsor.
CASTLE, ARTHUR	11, King Edward Street, Oxford.
CASTLE, GEORGE RICHARD	Bicester, Oxford.
COOPER, ARTHUR LESLIE	17, Friar Street, Reading.
DEANE, EDWARD	148, Friar Street, Reading.
DREWEATT, THOMAS	Newbury, Berks.
EGGINTON, JOHN	150, Friar Street, Reading.
FIELD, FRANCIS HAYWARD	11, King Edward Street, Oxford.
FRANKLIN, THOMAS	Ascot, near Wallingford.
GALE, JOSEPH JOHN	Market Place, Wallingford.
GALPIN, CHARLES ALEXANDER . . .	36, Pembroke Street, Oxford.

GOTTO, FREDERICK EDWARD	Stoney Stratford, Bucks.
GURNEY, JAMES	Chalfont St. Giles, Bucks.
HABGOOD, HENRY CHARLES	Witney, Oxon.
HARRISON, JAMES THOMAS	Town Hall Offices, Buckingham.
HOLIDAY, FREDERICK DEAN	Bicester, Oxford.
JONES, FRANCIS WILLIAM	Asot, near Wallingford.
LAWRENCE, ARTHUR	Great Marlow, Bucks.
LIGHTFOOT, HENRY LE BLANC	Corpus Christi College, Oxford.
KING, JOHN BUSBY	Albert Park, and 14, High Street, Abingdon.
LITTLE, WILLIAM DAVIS	Middleton Stoney, Bicester.
MILLAR, WILLIAM GALT	10, High Street, Reading.
NEATE, ARTHUR WEBB	Albion House, Newbury, and Hungerford
NORTH, GEORGE FREDERIC	Strathfield Saye, Mortimer, Berks.
NOTTAGE, WILLIAM GRIGGS	High Street, Slough, and Windsor.
PARRY, ALBERT WOODWARD	17, Market Place, Reading.
PETO, JAMES WINDER	6, Market Place, Reading.
RICH, ROBERT	Dideot, Berks.
RUSSEL, ROBERT JOHN	Banbury, Oxon.
SAMUEL, WILLIAM JOHN	Newport Pagnell, Bucks.
SCROGGS, WILLIAM	Rectory House, Kidlington, Oxford.
SIMMONS, CHARLES	Henley-on-Thames.
SIMMONS, WILLIAM AUKEB	Henley-on-Thames.
TODD, RICHARD	Englefield, near Reading.
VERNON, ARTHUR	Borshams, High Wycombe, Bucks.
WATSON, JOHN	Shirburn Castle, Tetsworth.
WIGLEY, GEORGE DAVYS EDWARD	Winslow, Bucks.

Total, 44 Members.

(L.) BEDFORD, ESSEX, HERTFORD, AND MIDDLESEX COMMITTEE.

Chairman.

GEORGE BRIDGE HILLIARD, Chelmsford.

ADAMS, CHARLES FREDERICK	Barkway, Herts.
AUSTIN, RUSSELL GARDINER	Hertford.
AYRES, CHARLES PRYOR	52, High Street, Watford.
BALLS, JAMES MAYHEW	Castle Hedingham, Essex.
BLEWITT, EDWARD ROBERT	Rainham, Essex.
BROWN, FRANK JOHN	Tring, Herts.
BURNETT, GEORGE JOHN MUL- CASTER	} Bylands, Redbourn, Herts.
CHANCELLOR, FREDERICK	

COVERDALE, FREDERICK JOHN .	Ingatestone Hall, Essex.
CRAWTER, JOHN	Cheshunt, Herts.
CUMBERLAND, EDWARD ANTHONY	Luton and Leighton Buzzard.
DUVALL, JOHN WILLIAM . .	Hertford.
EVE, HERBERT TRUSTRAM . .	2, St. Paul's Square, Bedford.
EVE, JOHN RICHARD. . . .	St. Paul's Square, Bedford.
FENN, JOHN	{ The Hall, Ardleigh, and 146, High Street, Colchester.
FENNING, HERBERT SAMUEL .	St. Paul's Square, Bedford.
FOULKES, SEPTIMUS GIFFARD .	Tring, Herts.
HARDING, SIDNEY LONGHURST .	St. Alban's, Herts.
HAUGHTON, WILLIAM HOGHTON.	Highlands, Gt. Barford, St. Neot's.
HERON, WILLIAM CHARLES .	Uxbridge, Middlesex.
HILLIARD, GEORGE EDWARD .	Chelmsford.
HUNT, THOMAS	Baldock Street, Ware, Herts.
KEMP-SMITH, JAMES FREDERICK	Orsett, Essex.
KEMSLEY, JOSEPH WILLIAM .	Corn Exchange, Romford.
MACCALLUM, ALEXANDER DUNCAN	Romford, Essex.
MARTIN, THOMAS	North Place, Redbourn, Herts.
NEWMAN, THOMAS HARRY . .	Rayne, Essex.
NOCKOLDS, MARTIN	Saffron Walden, Essex.
NORMAN, JAMES MAURICE . .	Uxbridge, Middlesex.
PAISLEY, JOSEPH	Waresley, Sandy, Beds.
PARKER, CHARLES ALFRED . .	Maldon, Essex.
PRESTON, SAMUEL DAVID . .	Park Farm, Woburn, Beds.
ROBINSON, NATHANIEL WISHART	Marlowes, Hemel Hempstead, Herts.
RUMBALL, AUBREY	St. Alban's, Herts.
SHILCOCK, JAMES	Hitchin, Herts.
STAFFORD, ROBERT BARRY . .	83, High Street, Bedford.
STANFORD, CHARLES MAURICE .	23, High Street, Colchester.
START, JOSEPH WILLIAM . .	High Street, Colchester.
SURRIDGE, JOSEPH SMITH . .	Coggeshall, Essex.
SWORDER, HUGH	High Street, Epping.
TAYLOR, EDWARD FERGUSON .	New Barnet.
THOMSON, WILLIAM CUNNINGHAM	Estate Office, Luton Hoo, Luton.
THURNALL, JOHN EDWARD . .	Royston, Herts.
TRETHERWY, HENRY	Silsoe, Ampthill, Beds.
VAIZEY, JOHN GEORGE . . .	Bocking, Braintree, Essex.
WADDINGTON, JOHN ALLEN . .	Bayfordbury, Hertford.
WEALL, JOHN.	38, High Street, Watford, Herts.
WOODMAN, THOMAS FOSTER . .	32, St. Peter Street, St. Alban's.
WOODS, THOMAS	4 & 5, Church Parade, Hounslow, Middlesex.

Total, 50 Members.

(M.) DEVON AND CORNWALL COMMITTEE.

Chairman.

CHARLES EDWIN WARE, Gandy Street Chambers, Exeter.

BENSON, ROBERT ALAN . . .	Duchy of Cornwall Office, Liskeard.
BODY, JOHN BOND . . .	15, Princess Square, Plymouth.
BOURNE, ROBERT ELLIOTT . .	Elwell, Totnes.
BROWN, GEORGE . . .	Roborough House, Barnstable.
COMMINS, FREDERICK JAMES . .	7, Bedford Circus, Exeter.
COOPER, JOHN GROVES . . .	Bideford.
DAINTREE, JOHN OSBORN . . .	"Lola," Teignmouth.
DREW, HENRY . . .	15, Queen Street, Exeter.
DREW, HENRY ALBAN . . .	15, Queen Street, Exeter.
DREW, JOHN GOULD . . .	15, Queen Street, Exeter.
DYMOND, FRANCIS WILLIAMS . .	Exeter.
ELLIOTT, CHARLES . . .	{ George Street, Plymouth, and The Fawns, Ermington, Ivy Bridge.
ELLIS, EDWARD . . .	Bedford Chambers, Exeter.
FOSTER, JOSEPH BURGESS . . .	4, Cambridge Street, Plymouth.
FROST, FREDERIC CORNISH . .	Teignmouth.
HOLCOMBE, JAMES JOHN . . .	The Fawns, Ermington, Ivybridge.
KITTOW, JOHN . . .	West Holm, Launceston.
LETHBRIDGE, WALTER . . .	1, Leigham Villas, Plymouth.
LOCK, WILLIAM HENRY . . .	Instow.
LOVEYS, ARTHUR CLAMPITT . .	Moretonhampstead.
MICHELMORE, ALFRED . . .	Berry Pomeroy Estate Office, Totnes.
OSMOND, EDWARD . . .	Oakford, Upton Pyne, Devon.
PARSONS, HENRY JOHN DONNE .	Bamfylde House, Exeter.
PEARSE, WILLIAM . . .	Stoliford, Modbury.
PINNEY, JOHN GEORGE . . .	Brooklyn House, Axminster.
RENDELL, ARTHUR STEPHEN . .	Market Terrace, Newton Abbot.
RUNDLE, EDWARD COLLINS . . .	Bedford Estate Office, Tavistock.
SMYTH-RICHARDS, GEORGE COBLEY	6, Castle Street, Barnstaple.
STOOKE, JAMES . . .	Courtenay Street, Newton Abbot.
SYMONS, PHILIP . . .	Fore Street, Totnes.
TANNER, JOHN MELHUISE . . .	Wembworthy.
THORNE, ARNOLD . . .	Cross Street, Barnstaple.
TROUNSON, JOHN WILLIAM . . .	27, Clarence Street, Penzance.
WARD, DANIEL . . .	8, Courtenay Street, Plymouth.
WARD, FRANK . . .	Burnville, Bridestowe.
WHITE, ARTHUR JEFFREY . . .	Wrangaton Manor, Ivybridge, South Devon.
WINDER, GEORGE ALEXANDER . .	Escot Estate Office, Fairmile, Ottery St. Mary.

Total, 38 Members.

(N.) SOMERSET, GLOUCESTER, AND NORTH WILTS
COMMITTEE.*Chairman.*

ROBERT FOWLER STURGE, 34, Corn Street, Bristol.

ANDERSON, ROBERT, JUN. . . .	The Barton, Cirencester.
ANDREW, THOMAS HAWKES . . .	Williton, Somerset.
BAILEY, STEPHEN	Nynehead, Wellington, Somerset.
BENNETT, THOMAS OATLEY . . .	Bruton, Somerset.
BISHOP, CHARLES	Regent Circus, Swindon, Wilts.
BRUTON, HENRY WILLIAM . . .	Albion Chambers, Gloucester.
COX, GEORGE JAMES	1, Promenade, Cheltenham.
CRUSE, EDMUND	24, Bridge Street, Bristol, and Charleville, Clevedon.
DANIEL, HARRY AUGUSTUS HOOD	Keynsham Manor, near Saltford, Somerset.
EDWARDS, ARTHUR PHIPPEY . .	Hutton, near Weston-super-Mare.
FARWELL, FREDERICK GEORGE .	11, Laura Place, Bath.
FERRIS, GEORGE	Milton Manor, Pewsey, Wilts.
FOLEY, JOHN HOWARD	Manvers Street, Trowbridge.
HARLE, JOHN JOSEPH	Tortworth Estate Office, Falfield, Gloucester.
HEARD, HERBERT	Shepton Mallet, Somerset.
HEBDITCH, WILLIAM BENJAMIN	Stratton, South Petherton, Ilminster, Somerset.
HIPPISLEY, EDWIN	12, Chamberlain Street, Wells.
HIPPISLEY, EDWIN MAGGS . . .	12, Chamberlain Street, Wells.
HIPPISLEY, WILLIAM JOHN . . .	12, Chamberlain Street, Wells.
HOLLOWAY, THOMAS	Chippenham, Wilts.
HUSSEY, FRANK TOOZE	The Grove, Cheddon Fitzpaine, Taunton.
JEANS, MARK	Marlborough, Wilts.
KNOWLES, HENRY	Wotton, Gloucester.
MARSHALL, LIONEL HASLER . . .	Chippenham, Wilts.
MUNDY, HERBERT	Manvers Street, Trowbridge.
MUNRO, PHILIP	{ 2, St. Stephen's Chambers, New Baldwin Street, Bristol.
MYLNE, WILLIAM JOHN HOME . .	Sabrina, Clevedon Road, Weston-super-Mare.
NAPIER, HENRY BURROUGHS . .	Chippenham, Wilts.
PARSONS, FRANK DONISTHORPE .	Misterton, Crewkerne.
PARSONS, HENRY	Misterton, Crewkerne.
PARSONS, ROBERT MAURICE } PETERS	Misterton, Crewkerne.
PATTISSON, JACOB LUARD, C.B.	Hillside, Marlborough, Wilts.
PEARCE, JOHN GRIGG	North Curry, near Taunton.
PRIDAY, LEWIS HENRY	Longford Court, near Gloucester.
PRITCHETT, ELLIS HERBERT . .	Farringdon Street, Swindon, Wilts.
RANSFORD, BENJAMIN HERBERT	The Leaze, Berkeley, Gloucester.

SADLER, GEORGE WILLIAM	467, High Street, Cheltenham.
SCAMMELL, THOMAS	14, John Street, Bristol.
SILCOCK, THOMAS BALL	14, Abbey Churchyard, Bath.
SMITH, HENRY HERBERT	Chippenham, Wilts.
SPACKMAN, CHARLES CHANTREY	6, Terrace Walk, Bath.
SPACKMAN, HENRY	6, Terrace Walk, Bath.
STURGE, WILLIAM	34, Corn Street, Bristol.
THOMAS, JOSIAH	Athenæum Chambers, Nicholas Street, Bristol.
TREPPIN, ERNEST C.	Wastern, Wootton Bassett.
VILLAR, JAMES	1A, Cambray, Cheltenham.
WAINWRIGHT, CHARLES RAWLIN- SON	} Shepton Mallet.
WALKER, JOSEPH ARTHUR	
WATKINS, ROBERT ARUNDEL	Castle Combe, Chippenham.
WHATLEY, FREDERICK ERNEST	Cirencester.
WISE, CHARLES DACRES	Toddington, Wincheomb, Gloucester.
WOOLER, WALTER HERNAMAN	Waterloo Street, Weston-super-Mare.

Total, 53 Members.

(O.) HAMPSHIRE, DORSET, AND SOUTH WILTS COMMITTEE.

Chairman.

GEORGE EDWARD RICHARDS, St. John's Hill, Wimborne.

ALLEN, GEORGE	Estate Offices, Stalbridge, Dorset.
ARNOLD, FRANCIS	Chillaud, Winchester, and Hambledon, Hants.
AUSTIN, RICHARD	Bishop's Waltham, Hants.
AUSTIN, RICHARD, JUN.	Bishop's Waltham, Hants.
BAIRD, JONATHAN PEEL	Estate Office, Somerley, Ringwood, Hants.
BATH, FRED	Crown Chambers, Salisbury.
BIRD, JAMES BINFIELD	West Cowes, Isle of Wight.
BLAKE, FREDERICK	130, Queen Street, Portsea, Hants.
BLAZARD, JOHN HENRY	Lansdowne House, Castle Lane, Southampton.
BURNETT, ALFRED ANDREW	2, High Street, Southampton.
CANNING, WILLIAM BROWNE	Salisbury.
CLIFTON, JAMES EDWARD	Swanage, Dorset.
COCKS, SAMUEL ROGER	5, St. Thomas's Street, Ryde.
COMBES, CYRUS	Tisbury, Wilts.
COMELY, JOHN GILL	Winchester, Hants.
CRICKMAY, GEORGE RACKSTROW	St. Thomas' Street, Weymouth.
CRICKMAY, JOHN EDWARD	St. Thomas' Street, Weymouth.

DAY, GEORGE CARLETON	Estate Office, Woodbridge, Shaftesbury, Dorset.
DUKE, EDWARD	Dorchester.
DUKE, HENRY, JUN.	Dorchester.
EAMES, EDWARD	Stoke Manor, near Alresford.
ELFORD, JOHN	King Street, Poole.
ELLEN, FREDERICK CHARLES	Andover.
EVANS, HENRY	{ Newlands Estate Office, Milford-on-Sea, near Lymington.
GATER, CALEB WILLIAM	Salisbury.
GRANT, HARRY GREME	Chilbolton, Hants.
GUDGEON, GEORGE EDWARD	Estate Agency Offices, Winchester.
HALL, ERNEST	166, Queen Street, Portsea, Hants.
HANKINSON, THOMAS JAMES	Richmond Chambers, Bournemouth.
HANNEN, REGINALD ST. JOHN	The Cottage, Fordingbridge, Salisbury.
HARRIS, JAMES	Winchester.
HAWKER, HARRY EDWIN	St. Peter's Chambers, Bournemouth.
HERBERT, ALLAN	The Market Place, Andover.
HILL, WILLIAM BURROUGH	62, Above Bar, Southampton.
HODGSON, ARTHUR MARRIOTT	4, Albion Place, Southampton.
JURD, WILLIAM	10, Oxford Street, Southampton.
KENT, GEORGE EDWARD	Normanburst, Cavendish Road, Southsea.
KING, THOMAS	Pembroke House, Portsmouth.
KING, SIR WILLIAM DAVID, D.L	Stratford Lodge, Southsea.
LANE, ERNEST LACAN	Richmond Chambers, Bournemouth.
LEMON, JAMES	Southampton.
LIVESAY, JOHN GILLETT	Cromartie House, Ventnor.
LYWOOD, EDWIN	Norman Court, Clatford, Andover.
MARVIN, ALBERT EDWARD	Mare Hill, Carisbrooke.
MITCHELL, GEORGE SHARMAN	Upper Adhurst, Petersfield, Hants.
NEWMAN, FRANCIS	Ryde, Isle of Wight.
NEWTON, THOMAS EDWIN	45, Jewry Street, Winchester.
OAKLEY, EDWARD BENJAMIN	Nutshaling, Portarlington Road, Bournemouth
OLIPHANT, GEORGE A. J.	Rushford, Christchurch.
PATERSON, CHARLES	Canford, Wimborne, Dorset.
PERKINS, WALTER FRANK	Portswood House, Southampton.
PICKSTOCK, JOHN	Castle Hill, Winchester.
RAWLENCE, ERNEST ALFRED	Newlands, Salisbury.
RAWLENCE, JAMES	Salisbury.
RAWLENCE, JAMES EDWARD	The Canal, Salisbury.
RAYNBIRD, HUGH EDWARD	Basingstoke, Hants.
REBBECK, EDWARD WISE	Gervis Place, Bournemouth.
REBBECK, THOMAS WARREN	Gervis Place, Bournemouth.
RIDDETT, WILLIAM HAMMOND	Townhall Chambers, Ryde.
RIGDEN, FRANCIS	Salisbury.

RIGDEN, HENRY WILLIAM . . .	Salisbury.
ROBEY, ROBERT	Oaklands, East Tytherley, near Romsey.
ROBINSON, EDMUND ARTHUR . . .	Lee-on-the-Solent, Gosport, Hants.
ROKER, MITCHEL JOHN	Snowdenham, Branksome Park, Bournemouth.
RUTHERFORD, JAMES AUGUSTINE	Highclere Park, near Newbury.
SANCTUARY, CAMPBELL FORTESCUE } STAPLETON	Mangerton, Melpash, Dorset
SAUNDERS, THEODORE RIDLEY . .	Belgrave Chambers, Ventnor.
SENIOR, HARRY SAMUEL	Sturminster Newton, Dorset.
SIMMONS, CHARLES FRANKLIN . .	Basingstoke, Hants.
SMITH, CHARLES BOVILL	Wykeham House, Fareham, Hants.
SMITH, FREDERICK JOHN	{ 21, Portland Street, Southampton, and Basing- stoke.
SMITH, GEORGE ALFRED	78, Parchment Street, Winchester.
SQUAREY, ELIAS PITTS	The Moot, Downton, Salisbury.
SQUAREY, NEWELL WILLIAM PITTS	The Moot, Downton, Salisbury.
STALLARD, ALFRED EDWIN . . .	West Street, Havant.
STIRTON, THOMAS	Estate Office, West Stratton Station, Micheldever.
STOPHER, THOMAS	Winchester.
STUDDY, THOMAS EDWARD . . .	Broxton, Chilbolton.
VERNON-INKPEN, GEORGE CHAS.	6, King's Road, Southsea.
WALLINGTON, JOHN ARTHUR BEACH	Basingstoke, Hants.
WALMISLEY, JOSEPH WILLIAM . .	7, King's Terrace, Southsea.
WARNER, HENRY	Faringdon, Alton, Hants.
WATERS, EDWARD	The Canal, Salisbury.
WAY, HENRY JAMES	{ 109, Lower St. James' Street, Newport, Isle of Wight.
WELLS, WILLIAM HOWLEY	Estate Office, Evershot.
WESTBURY, GEORGE HENRY . . .	The Knoll, Andover.
WESTBURY, GILES	Andover.
WETHERALL, HARRY LANCASTER	Brachlyn, Winchfield.
WILBRAHAM, EDWARD SIDNEY . .	Estate Office, St. Giles, Salisbury.
WOOLLEY, JOHN TURTON	Salisbury.
YOUNG, CHARLES	Alton, Hants.

Total, 92 Members.

(P.) KENT COMMITTEE.

Chairman.

GEORGE LANGRIDGE, The Great Hall, Tunbridge Wells.

BARTON, HARRY HOWELL . . . 17, Guildhall Street, Folkestone.

BRACKETT, ARTHUR WILLIAM . . 27, High Street, Tunbridge Wells.

BRACKETT, FREDERICK HENRY.	27, High Street, Tunbridge Wells.
BRACKETT, WILLIAM	27, High Street, Tunbridge Wells.
BURROWS, ALFRED JOHN . . .	41, Bank Street, Ashford.
COBB, HERBERT MANSFIELD . .	Higham.
COBHAM, CHARLES	The Shrubbery, Gravesend.
COBHAM, GEORGE RADCLIFFE . .	1 and 3, Edwin Street, Gravesend.
COOKE, HENRY	Thong, near Gravesend.
CRONK, EDWYN EVANS	Sevenoaks.
CRONK, FRANK	Sevenoaks.
CRONK, WILLIAM HENRY	Sevenoaks.
DANN, HENRY	Dartford.
DAY, WILLIAM, JUN.	23, High Street, Maidstone.
ELGAR, J. EDWARD	Crockshard, Wingham.
FINN, ADOLPHUS	High Street, Lydd, and Rye.
FINN, ARTHUR GEORGE	The Deanery, Chartham.
FINN, GEORGE WILLIAM	Westwood Court, Faversham.
FRY, GEORGE FREDERICK	46, London Road, Dover.
HARVEY, JOHN JAMES SAYER . .	80, Castle Street, Canterbury.
HAYWARD, HENRY	Dover.
HINDS, HENRY	57, Queen Street, Ramsgate.
HOBBS, JOHN	Guinea Hall, Sellinge, near Hythe.
HOMAN, FRANKLIN GEORGE . . .	147, Eastgate, Rochester.
HONEYBALL, FRED. THOMAS . .	Deal
JACKSON, WILLIAM TRESS . . .	117, High Street, Sittingbourne.
JENNINGS, WILLIAM JOSEPH . .	4, St. Margaret's Street, Canterbury.
KERL, WILLIAM JAMES	49, Copers Cope Road, Beckenham.
KIDWELL, JOHN	St. Margaret's Bank, Rochester.
LANGRIDGE, WILLIAM	Strellit House, East Peckham.
LATTER, HUGH ROBINSON	3, Market Square, Bromley.
LEPPER, JOHN HARRAGE	Town Hall, Bromley.
LUCAS, WILLIAM EDWARD	Bexley.
MANN, JABEZ	Sevenoaks.
MORRIS, HERBERT	Lewes, Sussex.
NEAME, FREDERICK, JUN. . . .	Macknade, Faversham.
NETHERSOLE, WILLIAM	Deal.
NEVE, HERBERT	Hole Park, Rolvenden.
OSBENTON, GEORGE, JUN. . . .	Westerham.
PAYNE, FREDERICK	Town Hall, Bromley.
PHILLIPS, FREDERICK HAMILTON	12, Belgrave Gardens, Dover.
REEVE, KINGSNORTH	High Street, Lydd, and Rye.
REID, FRANCIS	Bucksford, Ashford.
ROPER, WILLIAM	3, The Pantiles, Tunbridge Wells.
SEYMOUR, RICHARD ARTHUR } HAMILTON }	46, Earl Street, Maidstone.

SLATER, GEORGE	Canterbury.
SMITH, GEORGE	Boughton Monchelsea.
TOMPSETT, WILLIAM ROBERT	183, High Street, Tonbridge, and Paddock Wood.
TOOTELL, CHARLES	13, King Street, Maidstone.
TOOTELL, JOSEPH	13, King Street, Maidstone.
WACHER, THOMAS	Upper Bridge Street, Canterbury.
WARING, HERBERT FULLER	46, Earl Street, Maidstone.
WATERMAN, ALFRED JAMES	20, Week Street, Maidstone.
WATERMAN, JAMES	Ashford.
WATERMAN, RICHARD	20, Week Street, Maidstone.
WEBB, GEORGE	Tunstall, Sittingbourne.
WHITE, JOHN	49, London Road, Sevenoaks.
WILKS, RICHARD	Little Mongeham, near Deal.
WOOD, WILLIAM	Cooling Castle, near Rochester.

Total, 60 Members.

(Q.) SUSSEX COMMITTEE.

Chairman.

JAMES WOODHAMS, Havelock Road, Hastings.

AUSTEN, FRANK	Marling Place, Wadhurst.
BANNISTER, THOMAS	Limehurst, Hayward's Heath.
BEARD, EDWIN THOMAS	Wallsend, Pevensey, Sussex.
BURTENSHAW, ALBERT	Hailsham.
CARD, HENRY CURTIS	North Street, Lewes.
CHASEMORE, PHILIP	Ashleigh, Horsham.
COLGATE, THOMAS	Sheffield Park, Uckfield.
DAVEY, HENRY THOMAS	34, Cambridge Gardens, Hastings.
DRAY, ALFRED	Town Hall Chambers, Hastings.
HOBGEN, FRANCIS NEALE	East Street, Chichester.
HOBGEN, THOMAS CECIL	East Street, Chichester.
HOWARD, HARRY	17, Clifton Road, Littlehampton.
HUDSON, EDWARD WILLIAM	Hove.
INGRAM, WALTER FIELDE	83, High Street, Lewes.
KING, FRANK HULME	Horsham.
MORRIS, HERBERT	Lewes.
PARSONS, FREDERICK CECIL	9, Marine Parade, Brighton.
POWELL, HUBERT JOHN	Hill Lodge, Lewes.

POWELL, REGINALD HENRY	St. Swithun's Lane, Lewes.
SMITH, SIDNEY	Southwater, Horsham.
TAYLOR, MATTHEW	Northchapel, Petworth.
TURNER, CHARLES	Oakhurst, East Grinstead.
TURNER, WILLIAM WEBB	9, Clinton Place, Seaford.
WATSON, HERBERT EDWARD	New Grove, Petworth.
WELCH, FREDERICK WILLIAM	168, North Street, Brighton, and Hastings.
WILKINSON, THOMAS	168, North Street, Brighton, and Hastings.
WOOD, FREDERICK	84, Regency Square, Brighton.
WOOD, WILLIAM	Ifield Court, Crawley.
WYATT, OLIVER NEWMAN	East Street, Chichester.

Total, 30 Members.

(R.) NORTH WALES AND RADNOR COMMITTEE.

Chairman.

JOHN EDWARD POUNDLEY, Kerry, Newtown, Montgomeryshire.

ADDIE, WILLIAM FORRESTER	{ Powis Castle Estate Office, Welchpool, Montgomeryshire.
BIRCH, WALTER DE HOGHTON	Kerry, Montgomeryshire.
CLOUGH, RICHARD CHARLES BUTLER	{ Ty Maur, Denbigh.
DARLEY, WILLIAM	Llangwm, Corwen, N. Wales.
DEW, WILLIAM ARTHUR	Wellfield House, Bangor.
GILLART, DAVID	Towyn, Merionethshire.
GRANT, JAMES	Penrallt, Llanidloes, Montgomeryshire.
JONES, WALTER BUTLER CLOUGH	Mynydd, Ednyfed, Criccieth, Carnarvonshire.
JONES, WILLIAM EDWARD	Anglesey Estate Office, Craig, Llanfair, Anglesey.
LLOYD, GEORGE HAMILTON	Rhayader, Radnorshire.
MCINTYRE, PETER	Gwydyr Ucha, Llanrwst, N. Wales.
OWEN, WILLIAM SCOTT	Cefngwifed, near Newtown, Montgomeryshire.
PICKERING, WILLIAM CLOVES	Rhewl House, Mostyn, Flintshire.
PORTER, JOHN MERRY	Estate Office, Colwyn Bay, N. Wales.
POWELL, EVAN	Broomcliffe, Llanidloes, Montgomeryshire.
ROBERTS, THOMAS	Portmadoc.
WILLIAMS, JOHN	Gwernhefin, Bala, Merionethshire.
WILLIAMS, STEPHEN WILLIAM	Rhayader, Radnorshire.
WILLIAMS, WILLIAM LLOYD	24, High Street, Carnarvon.

Total, 20 Members.

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Local Distribution of Members.

BEDFORDSHIRE.

BEDFORD.

Fellows :—

Eve: Herbert Trustram.
 Eve: John Richard.
 Fenning: Herbert Samuel.
 Stafford: Robert Barry.

Professional Associate :—
 Weston: Joseph Aurelius.

GREAT BARFORD.

Fellow :—

Haughton: William Hoghton.

LUTON.

Fellows :—

Cumberland: Edward Anthony.
 Thomson: William Cunningham.
Professional Associate :—
 Franklin: Benjamin Belgrove.

SILSOE.

Fellow :—

Trethewy: Henry.

WOBURN.

Fellow :—

Preston: Samuel David.

Professional Associate :—
 Hall: Chas. Pell.

BERKSHIRE.

ABINGDON.

Fellows :—

Adkin: Charles Duncan.
 King: John Busby.

ASCOT.

Fellows :—

Franklin: Thomas.
 Jones: Francis William.

BUSCOT.

Professional Associate :—
 Crosland, Walter.

DIDCOT.

Fellow :—

Rich: Robert.

ENGLEFIELD.

Fellow :—

Todd: Richard.

HUNGERFORD.

Fellow :—

Neate: Arthur Webb.
Professional Associate :—
 Burder: Reginald Edward Campbell.

MAIDENHEAD.

Professional Associate :—
 Tilly: Hubert Douglas.

BERKSHIRE—continued.

NEWBURY.

Fellows :—

Bingham: Alfred John.
 Drewatt: Thomas.
 Neate: Arthur Webb.

PAVENHAM.

Fellow :—

MacCallum: Alexander Duncan.

READING.

Fellows :—

Cooper: Arthur Leslie.
 Deane: Edward.
 Egginton: John.
 Haslam: Dryland.
 Millar: William Galt.
 Parry: Albert Woodward.
 Peto: James Winder.

Professional Associates :—
 Colbourn: Henry James.
 Haslam: Dryland, Jun.

STRATHFIELD SAYE.

Fellow :—

North: George Frederic.

WALLINGFORD.

Fellow :—

Gale: Joseph John.

Professional Associate :—
 Merry: Arthur Walker.

Associate :—

Wells: Alfred Dodd.

WANTAGE.

Fellow :—

Adkin: Charles Duncan.

Professional Associate :—
 Belcher: Edward John.

WARESLEY.

Fellow :—

Paisley: Joseph.

WINDSOR.

Fellows :—

Buckland: Frank Bowry.
 Buckland: Henry Duncan.
 Nottage: William Griggs.

Professional Associate :—
 Buckland: Sidney Crawford.

BUCKINGHAMSHIRE.

BUCKINGHAM.

Fellows :—

Bennett: George.
 Harrison: James Thomas.

BUCKINGHAMSHIRE—continued.

HIGH WYCOMBE.

Fellow :—
Vernon : Arthur,
Member of Council.

Professional Associate :—
Phillips : William Dearlove.

Associate :—
Clarke : Daniel.

LEIGHTON BUZZARD.

Fellows :—
Bruce : Robert Knight.
Cumberland : Edward Anthony.

MARLOW (GREAT).

Fellow :—
Laurence : Arthur.

NEWPORT PAGNELL.

Fellow :—
Samuel : William John.

SLOUGH.

Fellows :—
Baker : John.
Gurney : James.
Nottage : William Griggs.

STONY STRATFORD.

Fellow :—
Gotto : Frederick Edward.

WINSLOW.

Fellow :—
Wigley : George Davys Edward.

CAMBRIDGESHIRE.

BABRAHAM.

Professional Associate :—
Webb : Frederic Noel.

CAMBRIDGE.

Fellows :—
Grain : Arthur Tress.
Jonas : Harry Marshall.
Jonas : John Carter.
Moyes : John Helenus.
Rowe : Richard Reynolds.
Waters : Frank.
Wright : Thomas.

Professional Associates :—
Jonas : Samuel Marshall.
Windley : Henry Chadwick.

CHEVELEY.

Professional Associate :—
Garrod : Herbert James.

ELY.

Fellow :—
Bidwell : Charles.
Member of Council.

KIRTLING.

Fellow :—
Davis : Charles Edward.

CAMBRIDGESHIRE—continued.

LINTON.

Fellow :—
Chalk : Henry Philip.

LITTLEPORT.

Professional Associate :—
Martin : Heber Gambling.

MARCH.

Fellow :—
Little : William Outlack.

NEWMARKET.

Professional Associate :—
Taylor : Harry William.

ROYSTON.

Professional Associate :—
Rowley : William Taylor.

CHESHIRE.

ALTRINCHAM.

Fellow :—
Cocks : Robert.

BIRKENHEAD.

Fellow :—
Mills : William Edward.
Professional Associate :—
Whalley : Frederick Herbert.

CAPESTHORNE.

Fellow :—
Carswell : William.

CHESTER.

Fellows :—
Jones : Isaac Matthews.
Whalley : Henry Shaw.
Professional Associate :—
Whalley : Frederick Herbert.

CREWE.

Fellow :—
McCracken : William.

DUKINFIELD.

Fellow :—
Pearson : Alfred.

ECCLESTON.

Fellow :—
Parker : The Hon. Cecil Thomas.

FRODSHAM.

Fellow :—
Linaker : Charles Edward.

HAUGHTON.

Fellow :—
Owen : Richard Newsham.

KNUTSFORD.

Fellow :—
Smith : John Thompson.

MACCLESFIELD.

Fellow :—
Walsh : Albert Mellor.

CHESHIRE—continued.

MERE.

Fellow :—

Stocks: Frederick William.

MOLLINGTON.

Fellow :—

Davies: John.

RUNCORN.

Fellow :—

Evans: Charles Lee.

STOCKPORT.

Fellows :—

Brady: Charles Alldis.

Brady: William Hollinshed.

Professional Associate :—

Brady: Ralph Hollinshed.

TARPORLEY.

Fellow :—

Scovell: John.

WILMSLOW.

Professional Associate :—

Halkyard: William Redford.

CORNWALL.

LAUNCESTON.

Fellow :—

Kittow: John.

Associate :—

Cowland: Christopher Lethbridge.

LISKEARD.

Fellow :—

Benson: Robert Alan.

PENZANCE.

Fellow :—

Trousoun: John William.

CUMBERLAND.

CARLISLE.

Fellows :—

Hayton: Joseph William.

Hayton: Pattinson.

COCKERMOUTH.

Fellow :—

Clutton: William James.

EDENHALL.

Fellow :—

Richardson: George.

NETHERBY.

Fellow :—

Bowman: John James.

PENRITH.

Fellows :—

Birkett: Tom.

Heskett: William James.

Hudson: James.

Little: William.

RAVENGLASS.

Fellow :—

Watt: Alexander.

CUMBERLAND—continued.

WHITEHAVEN.

Fellow :—

Stanley-Dodgson: Stanley Dickinson.

WORKINGTON.

Fellow :—

Potts: James.

DERBYSHIRE.

ALFRETON.

Fellow :—

Eardley: John William.

BAKEWELL.

Professional Associate :—

Longsdon: Ernest Morewood.

BEAUCHIEF ABBEY.

Fellows :—

Sampson: George.

Sampson: William.

BRETBY.

Professional Associate :—

Campbell: Colin.

BUXTON.

Fellow :—

Hubbersty: Henry Alfred.

CHESTERFIELD.

Fellows :—

Jeudwine: William Wynne.

Margereson: Charles Frederic

Martin: Gilson.

Thorpe: Christopher.

DERBY.

Fellows :—

Brailsford: Henry.

Fuller: Thomas Alfred.

Murray: Gilbert.

Parkin: John Robert.

Shaw: John.

Member of Council.

Shaw: John, Jun.

Whitton: John William.

Wright: James

Professional Associate :—

McCallum: Peter Service.

Associate :—

Strutt: The Hon. Frederick.

DUCKMANTON.

Fellow :—

Byron: Augustus William.

SHIPLEY.

Fellow :—

Sebastian-Smith: Charles.

SUDBURY.

Fellow :

Fawkes: Algernon.

WINGERWORTH.

Fellow :—

Barnes: George Frederick.

DEVONSHIRE.

AXMINSTER.

Fellow :—
Pinney: John George.

BAENSTAPLE.

Fellows :—
Brown: George.
Smyth-Richards: George Cobley.
Thorne: Arnold.

Professional Associate :—
Watson: Claude Henry.

BEERALSTON.

Fellow :—
Ward: Daniel.

BIDEFORD.

Fellow :—
Cooper: John Groves.

BRIDESTOWE.

Fellow :—
Ward: Frank.

BROAD-CLYST.

Associate :—
Acland: Sir Thomas Dyke, Bart.

ERMINGTON.

Fellow :—
Holcombe: James John.

EXETER.

Fellows :—
Commin: Frederick James.
Drew: Henry,
Member of Council.
Drew: Henry Alban.
Drew: John Gould.
Dymond: Francis Williams.
Ellis: Edward.
Parsons: Henry John Donne.
Ware: Charles Edwin.

Professional Associates :—
Ellis: Albert Edward.
Lucas: John Archibald.

DEVONPORT.

Professional Associate :—
Venning: Alfred John Meybohn.
Associate :—
Venning: John James Edgcombe.

INSTOW.

Fellow :—
Lock: William Henry.

IVYBRIDGE.

Fellows :—
Elliott: Charles.
White: Arthur Jeffrey.

MODBURY.

Fellow :—
Pearse: William.

MORETONHAMPESTEAD.

Fellow :—
Loveys: Arthur Clappitt.

DEVONSHIRE—continued.

NEWPORT.

Professional Associate :—
Bowden: John Friendship.

NEWTON ABBOT.

Fellows :—
Rendell: Arthur Stephen.
Stooke: James.
Professional Associate :—
Molyneux: Herbert Ernest.

OTTERY ST. MARY.

Fellow :—
Winder: George Alexander.

PAIGNTON.

Professional Associate :—
Pridham: John Lawrence.

PLYMOUTH.

Fellows :—
Body: John Bond.
Elliott, Chas.
Foster: Joseph Burgess.
Lethbridge: Walter.
Ward: Daniel.
Professional Associate :—
Body: Arthur.

TAVISTOCK.

Fellow :—
Rundle: Edward Collins.

TEIGNMOUTH.

Fellows :—
Daintree: John Osborn.
Frost: Frederic Cornish.

TOTNES.

Fellows :—
Bourne: Robert Elliott.
Michelmores: Alfred.
Symons: Philip.
Professional Associate :—
Watson: Richard.

UPTON PYNE.

Fellow :—
Osmond: Edward.

WEMBORTHY.

Fellow :—
Tanner: James Melhuish.

DORSETSHIRE.

DORCHESTER.

Fellows :—
Duke: Edward.
Duke: Henry, Jun.

EVERSHOT.

Fellow :—
Wells: William Howley.

MELPLASH.

Fellow :—
Sanctuary: Campbell F. S.

POOLE.

Fellow :—
Elford: John.

DORSETSHIRE—*continued.*

SHAFTESBURY.

Fellow :—
Day : George Carleton.

STALBRIDGE.

Fellow :—
Allen : George.

STURMINSTER-NEWTON.

Fellow :—
Senior : Harry Samuel.

SWANAGE.

Fellow :—
Clifton : James Edward.

WEYMOUTH.

Fellows :—
Crickmay : George Rackstrow.
Crickmay : John Edward.

WIMBORNE.

Fellows :—
Paterson : Charles.
Richards : George Edward.
Professional Associate :—
Golightly : Chas. Hugh.

DURHAM.

BARNARD CASTLE.

Fellow :—
Wells : Edwin.

BRANCEPETH.

Fellow :—
Peirson : Henry Thomas.

CHESTER-LE-STREET.

Fellow :—
Clark : Nathaniel.

DARLINGTON.

Fellows :—
Eade : Arthur Willoughby French.
Minter : William.
Scarth : William T.

DURHAM.

Fellows :—
Rowlandson : Christopher.
Wall : George Young.

GATESHEAD-ON-TYNE.

Fellow :—
Wallace : Henry.

KEVERSTONE.

Fellow :—
Bainbridge : Robert Stagg.

SEAHAM-HARBOUR

Fellow :—
Brydon : Robert.

SHOTLEY BRIDGE.

Fellow :—
Oliver : Charles Edward.

DURHAM—*continued.*

SPENNYMOOR.

Professional Associate :—
Little : Henry.

STOCKTON-ON-TEES.

Fellows :—
Curry : Henry John
Rodham : John.

SUNDERLAND.

Fellows :—
Green : Robert Couper.
Hedley : John Hunt.
Hedley : Thomas Fenwick.

WINDLESTONE.

Fellow :—
Rudman : Sydney Charles.

ESSEX.

ARDLEIGH.

Fellow :—
Fenn : John.

BRAINTREE.

Fellow :—
Vaizey : John George.

CASTLE HEDINGHAM.

Fellow :—
Balls : James Mayhew.

CHELMSFORD.

Fellows :—
Chancellor : Frederick.
Christy : Archibald Ernest.
Hilliard : George Bridge.
Hilliard : George Edward.
Professional Associate :—
Phillips : George Cawkwell.
Associate :—
Gepp : Charles Bramston Osborne.

CHIGWELL.

Fellow :—
Savill : Alfred.

COGGESHALL.

Fellow :—
Surridge : Joseph Smith.

COLCHESTER.

Fellows :—
Fenn : John.
Moore : Harold Edward.
Stanford : Charles Maurice.
Start : Joseph William.
Professional Associate :—
Grimwade : Henry.

EPPING.

Fellow :—
Sworder : Hugh.

GRAYS.

Fellow :—
Cobham : Charles.

ESSEX—*continued.*

HATFIELD PEYEREL.
Fellow :—
 Strutt: The Hon. Edward Gerald.

INGATESTONE.
Fellow :—
 Coverdale: Frederick John.

MALDON.
Fellow :—
 Parker: Charles Alfred.

ORSETT.
Fellow :—
 Kemp-Smith: James Frederick.

RAINHAM.
Fellow :—
 Blewitt: Edward Robert.

RAYNE.
Fellow :—
 Newman: Thomas Harry.

ROMFORD.
Fellows :—
 Kemsley: Joseph William.
 MacCallum: Alexander Duncan.

SAFFRON WALDEN.
Fellow :—
 Nockolds: Martin.
Professional Associates :—
 Nockolds: Alfred George.
 Nockolds: Martin Charles Hubert.

SOUTHEND-ON-SEA.
Fellow :—
 Tapp: Arthur.

WALTHAM-ABBEY
Fellow :—
 Chetwood: Stephen.

WENDEN.
Professional Associate :—
 Robinson: Martin Catlin.

WOODFORD.
Fellows :—
 Kemsley: Joseph William.
 Lee: Philip Shirling.
 Theobald: Henry.

GLOUCESTERSHIRE.

BERKELEY.
Fellow :—
 Ransford: Benjamin Herbert.

BRISTOL.
Fellows :—
 Cruse: Edmund.
 Munro: Philip
 Scammell: Thomas.
 Sturge: Robert Fowler.
 Sturge: William.
Past-President.
 Thomas: Josiah.
Professional Associates :—
 Sturge: Theodore.
 Wood: Edward Bryan.

GLOUCESTERSHIRE—*continued.*

CHELTENHAM.
Fellows :—
 Cox: George James.
 Sadler: George William.
 Villar: James.
Professional Associate :—
 Stucké: William Henry.

CIRENCESTER.
Fellows :—
 Anderson: Robert, Jun.
 Whatley: Frederick Ernest.
Associate :—
 Kinch: Edward.

FALFIELD.
Fellow :—
 Harle: John Joseph.

GLOUCESTER.
Fellow :—
 Knowles: Henry.

TODDINGTON.
Fellow :—
 Wise: Charles Dacres.

HAMPSHIRE.

ALRESFORD.
Fellow :—
 Eames: Edward.

ANDOVER.
Fellows :—
 Ellen: Frederick Charles.
 Herbert: Allan.
 Westbury: George Henry.
 Westbury: Giles.
Professional Associate :—
 Hooper: Alfred Frederick.

BASINGSTOKE.
Fellows :—
 Raynbird: Hugh Edward.
 Simmons: Charles Franklin.
 Simmons: William Anker.
 Wallington: John Arthur Beach.

BISHOP'S WALTHAM.
Fellows :—
 Austin: Richard.
 Austin: Richard, Jun.

BOURNEMOUTH.
Fellows :—
 Hankinson: Thomas James.
 Hawker: Harry Edwin.
 Lane: Ernest Lacon.
 Oakley: Edward Benjamin.
 Rebbeck: Edward Wise.
 Rebbeck: Thomas Warren.
 Roker: Mitchel John.
Professional Associates :—
 Hankinsen: Francis Henry.
 Wight: Norman.

CARISBROOKE.
Fellow :—
 Marvin: Albert Edward.

HAMPSHIRE—*continued.*

CLATFORD.

Fellow :—
Lywood: Edwin.

CHILBOLTON.

Fellows :—
Grant: Harry Græme.
Studdy: Thomas Edward.

CHILLAND.

Fellow :—
Arnold: Francis.

CHRISTCHURCH.

Fellow :—
Oliphant: George A. J.

EAST TYTHERLEY.

Fellow :—
Robey: Robert.

FAREHAM.

Fellow :—
Smith: Charles Bovill.

FARINGDON.

Fellow :—
Warner: Henry.

FORDINGBRIDGE.

Fellow :—
Hannen: Reginald St. John.

GOSPORT.

Fellow :—
Robinson: Edmund Arthur.

HAMBLETON.

Fellow :—
Arnold: Francis.

HAVANT.

Fellow :—
Stallard: Alfred Edwin.

HIGHCLERE.

Fellow :—
Rutherford: James Augustine.

MICHELDEVER.

Fellow :—
Stirton: Thomas.
Professional Associate :—
Pain: James.

MILFORD-ON-SEA.

Fellow :—
Evans: Henry.

NEWPORT.

Fellow :—
Way: Henry James.

PETERSFIELD.

Fellow :—
Mitchell: George Sharman.

HAMPSHIRE—*continued.*

PORTSMOUTH.

Fellow :—
King: Thomas.
Professional Associate :—
Slipper: Henry Herbert.

PORTSEA.

Fellows :—
Blake: Frederick.
Hall: Ernest.
Kent: George Edward.
King: Thomas.
King: Sir William David.

RINGWOOD.

Fellow :—
Baird: Jonathan Peel.

RYDE.

Fellows :—
Cocks: Samuel Roger.
Newman: Francis.
Riddett: William Hammond.

SOUTHAMPTON.

Fellows :—
Blizard: John Henry.
Burnett: Alfred Andrew.
Hill: William Burrough.
Hodgson: Arthur Marriott.
Jurd: William.
Lemon: James.
Perkins: Walter Frank.
Smith: Frederick John.

SOUTHSEA.

Fellows :—
Kent: George Edward.
King: Sir William David, D.L.
Vernon-Inkpen: George Charles.
Walmisley: Joseph William

UPTON GRAY.

Associate :—
Seth-Smith: Frederick.

VENTNOR.

Fellow :—
Livesay: John Gillett.
Saunders: Theodore Ridley.

WEST COWES.

Fellow :—
Bird: James Binfield.

WINCHESTER.

Fellows :—
Comely: John Gill.
Gudgeon: George Edward.
Harris: James.
Newton: Thomas Edwin.
Pickstock: John.
Stopher: Thomas.
Williams: Herbert Walter.

WINCHFIELD.

Fellow :—
Wetherall: Harry Lancaster

HEREFORDSHIRE.

BROMYARD.

Fellow :—
Millyard: John William.

HEREFORD.

Fellows :—
Apperley: William Havard.
Brown: John Powles.
Godsell: George Herbert.
Haywood: Henry.
Haywood: William Matthews.
Parker: John.

Professional Associate :—
Hewitt: William.

LEDBURY.

Fellow :—
Madge: John.

HERTFORDSHIRE.

BARKWAY.

Fellow :—
Adams: Charles Frederic.
Professional Associate :—
Balding: Albert.

CHESHUNT.

Fellows :—
Crawter: John.
Crawter: John, Jun.
Debenham: Frank Gissing.

HEMEL HEMPSTEAD.

Fellow :—
Robinson: Nathaniel Wishart.

HERTFORD.

Fellows :—
Austin: Russell Gardiner.
Norris: Walter Henry.
Waddington: John Allen.

HITCHIN.

Fellow :—
Shilcock: James.

MUCH HADHAM.

Associate :—
Gayton: Charles.

NEW BARNET.

Fellows :—
Hasluck: Lancelot Gerald.
Taylor: Edward Fergusson.

REDBOURN.

Fellows :—
Burnett: George John Mulcaster.
Martin: Thomas.

ROYSTON.

Fellow :—
Thurnall: John Edward.

HERTFORDSHIRE—continued.

SAWBRIDGEWORTH.

Professional Associate :—
Crawley: William Jeeves.

ST. ALBANS.

Fellows :—
Harding: Sidney Longhurst.
Low: Robert John.
Rumball: Aubrey.
Woodman: Thomas Foster.

TRING.

Fellows :—
Brown: Frank John.
Foulkes: Septimus Giffard.
Professional Associate :—
Brown: Arthur Macdonald.

WARE.

Fellows :—
Duvall: John William.
Hunt: Thomas.

WATFORD.

Fellows :—
Ayles: Charles Pryor.
Pridmore: Albert Edward.
Weall: John.
Professional Associates :—
Brown: William Edward.
Sedgwick: Rupert William.
Associate :—
Thomas: Hubert.

HUNTINGDONSHIRE.

BRAMPTON.

Fellow :—
Bird: John.

CALDECOTE.

Fellow :—
Preedy: Frederic.

HUNTINGDON.

Fellows :—
Looker: John.
Purves: Peter.
Associate :—
Veasey: Thomas Frederick.

ST. NEOTS.

Fellow :—
Peppercorn: John Hutchinson

KENT.

ASHFORD.

Fellows :—
Burrows: Alfred John.
Reid: Francis.
Waterman: James.
Professional Associate :—
Brown: Alexander.

KENT—continued.

AYLESFORD.

Professional Associate :—
Innes: Gilbert Plantagenet Mitchell.

BECKENHAM.

Fellow :—
Kerl: William James.
Professional Associate :—
Ovenden: Charles.

BEXLEY.

Fellow :—
Lucas: William Edward.

BOUGHTON-MONCHELSEA.

Fellow :—
Smith: George.

BROMLEY.

Fellows :—
Latter: Hugh Robinson.
Lepper: John Harrage.
Payne: Frederick.

CANTERBURY.

Fellows :—
Harvey: John James Sayer.
Jennings: William Joseph.
Slater: George.
Wacher: Thomas.
Professional Associate :—
Amos: Frank.

CHARTHAM.

Fellow :—
Finn: Arthur George.

COOLING.

Fellow :—
Wood: William.

DARTFORD.

Fellow :—
Dann: Henry.
Professional Associate :—
Prall: Herbert Edward.

DEAL.

Fellows :—
Honeyball: Fred Thomas.
Nethersole: William.

DOVER.

Fellows :—
Fry: George Frederick.
Hayward: Henry.
Phillips: Frederick Hamilton.
Walmisley: Arthur Thomas.
Professional Associate :—
Hayward: Frederick George.

EAST PECKHAM.

Fellow :—
Langridge: William

FARNINGHAM.

Professional Associate :—
Hodsoll: William.

KENT—continued.

FAVERSHAM.

Fellows :—
Finn: George William.
Neame: Frederick, Jun.
Professional Associate :—
Finn: Herbert Archibald.

FOLKESTONE.

Fellow :—
Barton: Harry Howell.
Professional Associate :—
Temple: Frederick Wilson.

GRAVESEND.

Fellows :—
Cobham: Charles.
Cobham: George Radcliffe.
Professional Associates :—
Cobham: George William.
Hodsoll: William, Jun.

HIGHAM.

Fellow :—
Cobb: Herbert Mansfield.

HYTHE.

Professional Associate :—
Wilks: Ernest Stringer.

IGHTHAM.

Associate :—
Luard: Major-Gen. Chas. Edw., R.E.

LITTLE MONGEHAM.

Fellow :—
Wilks: Richard.

LYDD.

Fellows :—
Finn: Adolphus.
Reeve: Kingsnorth.

MAIDSTONE.

Fellows :—
Day: William, Jun.
Seymour: Richard Arthur Hamilton.
Tootell: Charles.
Tootell: Joseph.
Waring: Herbert Fuller.
Waterman: Albert James.
Waterman: Richard.

PADDOCK WOOD.

Fellow :—
Tompsett: William Robert.

RAMSGATE.

Fellow :—
Hinds: Henry.
Professional Associate :—
Milnes: Robert, Jun.

ROCHESTER.

Fellows :—
Homan: Franklin George.
Kidwell: John.
Professional Associate :—
Homan: Hubert Franklin.

ROLVENDEN.

Fellow :—
Neve: Herbert.

KENT—continued.

SELLINGE.

Fellow :—

Hobbs: John.

SEVENOAKS.

Fellows :—

Cronk: Edwyn Evans.

Cronk: Frank.

Cronk: William Henry.

Mann, Jabez.

White, John.

Professional Associates :—

Finn: Fred.

Gardiner: Gilbert.

Green: Thomas John.

SIDCUP.

Fellow :—

Snelling: Henry.

Professional Associate :—

Norris: Edward James.

SITTINGBOURNE.

Fellows :—

Jackson: William Tress.

Webb: George.

Professional Associate :—

Cowper: Richard William.

SWANLEY.

Professional Associate :—

Hooper: Cecil Henry.

THONG.

Fellow :—

Cooke: Henry.

TUNBRIDGE.

Fellow :—

Tompsett: William Robert.

Professional Associate :—

Sturgess: John Moore.

TUNBRIDGE WELLS.

Fellows :—

Brackett: Arthur William.

Brackett: Frederick Henry.

Brackett: William.

Langridge: George.

Roper: William.

Professional Associates :—

Parris: Charles John.

Wing: George Staunton.

WESTERHAM.

Fellow :—

Osenton: George, Jun.

WINGHAM.

Fellow :—

Elgar: J. Edward.

LANCASHIRE.

ACCRINGTON.

Fellow :—

Bell: Albert William.

LANCASHIRE—continued.

ASHTON-UNDER-LYNE.

Fellow :—

Holmes: James.

Professional Associate :—

Hodgkinson: James Henry.

BAMBER BRIDGE.

Professional Associate :—

Dixon: Francis Edward.

BLACKBURN.

Fellows :—

bertwistle James.

Gradwell: Arthur Richard.

Holt: George Henry.

McCallum: James Braddon.

Robinson: George Edward.

BOLTON.

Fellow :—

Thompson: Francis William.

BOLTON-LE-MOORS.

Professional Associate :—

Collyer: Daniel William.

BURNLEY.

Professional Associate :—

Wilson: James Calvert.

BURY.

Fellows :—

Cartwright: Joshua.

Hopkinson: Alfred.

Nuttall: Thomas.

Professional Associate :—

Kay: Walter Robert.

CLAYTON-LE-MOORS.

Fellow :—

Fletcher: Thomas.

CLITHEROE.

Fellow :—

Parmeter: Frank.

FULWOOD.

Fellow :—

Nevett: Francis Walter.

LANCASTER.

Fellows :—

Dawson: Edward Howard.

Roper: John Simpson.

LEIGH.

Professional Associate :—

Selby: John Basely.

LIVERPOOL.

Fellows :—

Beckwith: Henry Langton.

Hall: Charles Edward.

Kirby: Edmund.

Lancaster: Charles Holland.

Lain: Coard Squarey.

Price: John.

Thomas: Glegge.

Wainwright: Thomas Taylor.

Wrennail: William.

Young: Edward Herbert.

Young: Oswald William.

Associate :—

King: William.

LANCASHIRE—continued.

LYTHAM.

Fellows :—

Fair: James Stretton.
Fair: Thomas.
Rea: John Marcus Beaumont.

MANCHESTER.

Fellows :—

Bancroft: Henry.
Banks: Thomas.
Batey: Henry Simpson.
Bowden: John.
Bridgford: Ernest James.
Bridgford: Col. Robert, C.B.
Corbett: Christopher.
Cross: John,

Member of Council.

Cross: William Haslam.
Dorning: Arthur Harry.
Dorning: Elias.
Eagle: William.
Earle: Thomas Algernon.
Barnshaw: Jacob.
Eastham: James Cook.
Fairclough: William.
Fowler: Henry.
Hargraves: Stephen.
Holden: John.
Hurrell: John Weymouth.
Jackson: Charles.
Larmuth: George Horatio.
Maxwell: Francis William.
Maxwell: James.
Meller: William Galloway.
Murgatroyd: James.
Pierson: Charles.
Raby: Joseph Walker.
Radford: William.
Radford: William Harold.
Shelmerdine: Henry.
Taylor: Thomas Walters.
Watts: Samuel Lingard.
Watts: William John.
Wilson: Thomas Silk.
Wilson: William Henry.

Professional Associates :—

Bancroft: Frederick Herbert.
Blundell: Harry.
Bowden: Ernest Newton.
Bridgford: Leo Appleton.
Squire: Gerald Robert.
Wallis: John David.
Wilson: William Edward.

PATRICROFT.

Professional Associate :—

Ellis: Francis, Jun.

PRESTON.

Fellows :—

Addie: Peter.
Fair: Jacob Wilson.
Fair: James Stretton.
Myre: John James.
Nevett: Francis Walter.
Nevett: Thomas.
Park: Philip Samuel.
Park: William Philip.
Rea: John Marcus Beaumont.
Veevers: Richard.

Professional Associate :—

Johnston: Walter Henry.

LANCASHIRE—continued.

ROCHDALE.

Fellow :—

Brocklebank: John.

SCORTON.

Fellow :—

Bailey: Leonard.

SOUTHPORT.

Fellows :—

Barrow: Thomas Robert.
Wolfenden: Thomas.

ST. HELEN'S.

Fellows :—

Booth: John Frederick.
Campbell: Henry Hunter.
Hanson: Amos.
Young: Harry Austin Lindsay.

TODMORDEN.

Fellow :—

Suthers: James.

WARRINGTON.

Fellows :—

MacIver: Colin.
White: John.

WIGAN.

Fellow :—

Fair: Jacob Wilson.

LEICESTERSHIRE.

ASHBY-DE-LA-ZOUCH.

Fellows :—

German: George.
German: Harry.
German: John.

Professional Associate :—

German: George, Jun.

BLABY.

Fellow :—

Hincks: Henry Thorp.

BLACKFORDBY.

Fellow :—

Joyce: John Hall.

HINCKLEY.

Fellows :—

Marson: Thomas.
Thorpe: William.

KIRBY MUXLOE.

Professional Associate :—

Beasley: John Arthur Llewellyn.

LEICESTER.

Fellows :—

Clare: Edward Lovell.
Clare: William Harcourt Lovell.
Clough-Taylor: Horace George.
Draper: Arthur Thomas.
Everard: John Breedon.

LEICESTERSHIRE—continued.

LEICESTER.

Fellows :—

Goddard: Joseph.
 Goodaere: John.
 Goodaere: Robert Johnson.
 Hampton: Willie Thomas.
 Marson: Thomas.
 Miles: William Frederick.
 Norman: Cecil Manners.
 Rolleston: John Fowke Lancelot.
Member of Council.
 Rolleston: Wm. Gustavus Stanhope.
 Sebastian-Smith: Charles.
 Wade: George Tempest.
Professional Associates :—
 Davis: Neville Brookes.
 Goddard: Alexander.
 Robinson: Alfred Whitmore.

LOUGHBOROUGH.

Fellows :—

German: Harry.
 Hodson: George.
 Woolley: William Edward.
Professional Associate :—
 Holbeche: Emilian Henry.

LAUGHTON.

Fellow :—

Perkins: Joseph.

MARKET HARBOROUGH.

Fellows :—

Fisher: Charles Browning.
 Fisher: Edward Knapp.
 Holloway: Harry Hownam.
Professional Associates :—
 Coales: Herbert George.
 Pochin: Thomas Clement.

MOUNTSORREL.

Fellow :—

Martin: Robert Frewen.

NAILSTONE.

Fellow :—

Thorpe: John.

WOODHOUSE.

Fellows :—

Humphreys: Henry.
 Humphreys: John Henry.

LINCOLNSHIRE.

ALFORD.

Fellow :—

Higgins: Frederic.

BOSTON.

Fellow :—

Hawley: Henry Michael.

BRIGG.

Fellow :—

Tindall: Charles William.

FULBECK.

Fellow :—

Crofts: Ewan Nevile.

LINCOLNSHIRE—continued.

GRANTHAM.

Fellow :—

Manners: Henry Alfred.

Associate :—

Scott: The Hon. Henry Robert.

GRIMSBY.

Fellow :—

Birkett: William.

HOLBEACH.

Fellow :—

Abbott: William.

HORKSTOW.

Fellow :—

Turton: Edward James.

LINCOLN.

Fellow :—

Woolley: Reginald.

LOUTH.

Fellow :—

Mason: Charles.

METHERINGHAM.

Fellow :—

Gilpin-Brown: William Dundas.

SPALDING.

Fellow :—

Kingston: Samuel.

STAMFORD.

Fellows :—

Corby: Joseph Boothroyd.
 Richardson: Charles.
 Richardson: James.

TEALBY.

Fellow :—

Legard: Digby Charles.

ULCEBY.

Fellow :—

Turner: John.

WAINFLEET.

Fellows :—

Martin: Walter.
 Walker: George Booth.

LONDON AND NEIGHBOURHOOD.

Fellows :—

Abbott: John Octavious.
 Adams: Charles Frederick.
 Adams: Henry.
 Adkin: Benaiah Whitley.
 Allport: William.
 Andrews: John.
 Anscombe: Ernest.
 Ansell: Walter Raymond.
 Arding: Charles Bennett.
 Ault: Edwin.

LONDON AND NEIGHBOUR-
HOOD—continued.*Fellows:—*

Badoock: Philip.
 Ball: William Alfred.
 Ballantine: Edwin.
 Barfield: Frederic Henry.
 Barker: Horace Richard.
 Barnes-Williams: Thomas.
 Barratt: Frederick William.
 Barry: Charles.
 Barry: Dennett Heber.
 Bate: Thomas.
 Batstone: Rowland Robert.
 Battam: Frederick Thomas.
 Batterbury: Thomas.
 Batting: Walter.
 Beale: Robert John.
 Beauchamp: Charles Davie.
 Bedells: Charles Herbert.
 Bedells: Charles King.
 Beeston: Frederick.
 Beken: George.
 Beken: Walter.
 Bell: George Graham.
 Benningfield: Henry.
 Bickerton: George Arthur.
 Bingham: Alfred John.
 Bingham: Frederick Henry.
 Bingham: Reuben.
 Bird: James Binfield.
 Bird: Walter.
 Blackford: Arthur.
 Blake: William John, Jun.
 Blakemore: William Agutter.
 Blashill: Thomas.
 Blyton: George.
 Bolam: Charles Godfrey.
 Bolden: John Leonard.
 Bond: Douglas Vale.
 Bonny: James Rippoth.
 Bontor: Frank Arthur.
 Booker: Algernon Erskine.
 Boulting: Frederick Edward.
 Bovill: Alfred.
 Bowdich: Henry.
 Bowdich: John.
 Boyd: John Jermyan.
 Boyes: Henry Cowell.
 Bradford: Walter.
 Bray: Harry.
 Breach: Benjamin P'Anson.
 Brereton: Franc Sadleir.
 Brereton: Thos. Bloomfield Sadleir.
 Brewer: Frank John.
 Briant: Robert.
 Bridgewater: Bentley James.
 Brinsley: George.
 Brookings: Edwin William.
 Brooks: Charles William.
 Brown: Alexander Burnett.
 Brown: Brad-haw.
 Brown: Daniel Johnson.
 Brown: George James.
 Brown: William Blumfield.
 Browne: Flint.
 Buckland: Alfred Virgoe.
 Buckland: Henry Duneau.
 Bull: Alfred Edwin.
 Bull: Walter.
 Burchell: Sidney Herbert.
 Burmester: John William Stanley.
 Burnett: David.
 Burroughes: Thomas Henry.
 Bushell: Henry.

LONDON AND NEIGHBOUR-
HOOD—continued.*Fellows:—*

Buzzard: Alfred Lindsey.
 Cable: James M.
 Cæsar: Charles Edward.
 Carew: John Theodore.
 Carritt: Ernest.
 Carpenter: Evan George.
 Cartwright: Sir Henry Edward.
 Castell: Charles Smith.
 Castle: Henry James.
 Castle: Sydney Charles Courtenay.
 Castle: William Henry Baldwin.
 Cates: Arthur.
 Chadwick: Spencer.
 Chancellor: Frederick.
 Chapman: Henry James.
 Charles: Richard Stafford.
 Chattell: David James.
 Chatterton: George.
 Chesterton: Edward.
 Chesterton: Sidney Rawlins.
 Cheston: Chester.
 Che-ton: Horace.
 Chew: Henry Victor.
 Child: Fred.
 Chinnock: Frederick George.
 Christy: Archibald Ernest.
 Clark: Samuel.
 Clarke: George Ernest.
 Clarke: Howard Chatfeild.
 Clarke: Percy Henry.
 Clarke: Stanley.
 Clarke: Thomas Chatfeild,
Vice-President.
 Clarkson: John.
 Clarkson: William.
 Clifton: William Edward.
 Clutton: John,
Past-President.
 Clutton: John Henry.
 Clutton: Ralph.
 Clutton: Robert George,
Member of Council.
 Cobb: Herbert Mansfield.
 Coles: John Robert.
 Collier: Richard James.
 Collier: Walter Henry.
 Collingham: John Cyril Lees.
 Collins: Henry Hyman.
 Collins: Marcus E.
 Coltman: Walter John.
 Colyer: Frederick.
 Conder: Alfred.
 Cooper: George Warren.
 Cooper: John Robert.
 Cooper: John Thomas.
 Corderoy: Athelstane.
 Corderoy: George.
 Coulson: William Lindsay.
 Coverdale: Henry.
 Cranfield: William Bathgate.
 Crawler: John, Jun.
 Crickmay: George Rackstrow.
 Crockett: Edwin Arthur Brassey.
 Cronk: Edwyn Evans.
 Cronk: Frank.
 Cross: William Stephens.
 Cruwys: Robert.
 Currey: Henry.
 Currey: Percivall.
 Curtis: Charles Edward.
 Curtis: Robert Leabon.

LONDON AND NEIGHBOURHOOD—continued.

Fellows :—

Curtis: Samuel Perkins.
 Cuxson: George Austin Pryce.
 Dale: John.
 Dallas: Edwin Stuart.
 Darch: John.
 Dash: Roland Ashford.
 Davies: George Humphreys.
 Davies: Walter.
 Davis: Charles James.
 Davis: Frederick William.
 Davis: James.
 Daw: William Herbert.
 Dawson: John George.
 Dawson: Percy John.
 Deacon: Thomas Mark.
 Dearle: William Henry.
 Debenham: Frank Gissing.
 Dennison: John William.
 Dinwiddy: Thomas.
 Doll: Charles Fitzroy.
 Dollar: Peter.
 Done: John James.
 Dowden: Henry Joseph.
 Downing: Frederick.
 Downing: Henry Philip Burke.
 Dowsett: Charles Finch.
 Driver: Charles William.
 Driver: Robert Collier.
Past-President.
 Driver: Robert Manning.
 Drury: Edward Dru.
 Duncan: James Morison.
 Dunch: Charles.
 Dunlop: Alexander Milne.
Vice-President.
 Dunn: William Henry.
 Dyball: Harvey.
 Dyer: William John.
 Eales: Frederick Ernest.
 Edmeston: James.
 Egerton: Hubert Decimas.
 Eiloart: Frederick Edward.
 Eldridge: Herbert.
 Elgood: Frank Minshall.
 Ellis: Frederick.
 Ellis: Henry.
 Ellis: Herbert Moates.
 Ellis: Ralph Staples.
 Ellis: Richard Adam.
 Ellis: Sir John Whittaker, Bart., M.P.
 Ellis: William Alfred.
 Elwell: William Henry.
 Emmanuel: Barrow.
 Evans: George.
 Eve: William.
 Eves: William Lionel.
 Farmer: Edmund.
 Farnan: Henry Richard.
 Farrar: Sidney Howard.
 Farthing: Walter Thomas.
 Field: James Frederick.
 Fleetwood: George.
 Flint: William Hurst.
 Ford: Lawton Robert.
 Foster: Charles Rolls.
 Foster: Frank.
 Foster: Henry Edwin.
 Fowler: Sydney.
 Fox: Edwin, Jun.
 Frampton: Alfred,

LONDON AND NEIGHBOURHOOD—continued.

Fellows :—

Francis: George Futvoye.
 Francis: Leon Albert.
 Franklin: Arthur.
 Franklin: Thomas Frederick.
 Freeman: Sydney.
 Fuller: Ernest.
 Fuller: Harry.
 Fuller: Herbert Henry.
 Furber: Herbert.
 Furber: William.
 Gairdner: Edward James.
 Gale: Arthur John.
 Gale: Ernest Sewell.
 Galsworthy: Frederick Thomas,
Member of Council.
 Gamble: Sidney Gompertz.
 Gandy: James.
 Gardiner: Edward James.
 Gardiner: William James.
 Garrard: Arthur.
Member of Council.
 Garrod: Thomas William M.
 Gate: Alfred Joseph.
 Gibbon: William Jacob.
 Giddy: Osman Horton.
 Gilbert: William Henry Sainsbury.
 Girdwood: James.
 Glasier: George Henry Brongham.
 Gleed: Richard Cummings.
 Goddard: Joseph.
 Goldsmith: William.
 Goodchild: Josiah.
 Goodwyn: Leonard William.
 Gordon: Charles Grimston.
 Gore: Spencer W.
 Goulding: William Purdham.
 Gouldsmith: George Waller.
 Gover: Arthur Sutton.
 Gover: John Richard.
 Graves: Walter.
 Green: James.
 Green: Samuel.
 Green: Thomas Joseph.
 Green: Thomas Thornton.
 Grellier, Harley Mair.
 Griffin: Harold.
 Griffiths: Harold.
 Griggs: Robert.
 Grogan: Hedworth Herbert.
 Grose: Vincent John.
 Grover: Arthur.
 Gruning: Edward Augustus.
 Gwyther: William Warlow.
 Hackford: George.
 Haddock: Roland.
 Hale: Raymond Henry.
 Hall: John George.
 Hall: Walter.
 Hallett: William Brown.
 Hamilton: Henry.
 Harolton: John.
 Hancock: William St. John H.
 Hausell: Reginald Goddard.
 Harcastle: Fredk. Henry Appleton.
 Harding: Edward Ernest.
 Harland: Marchant James.
 Harrington: George Frederick.
 Harrison: Richard Creece.
 Harston: Arthur.
 Hart: William Frederick,

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Harvey: Frederick Henry.
Haskins: William Albion.
Haywood: William, Lieut.-Colonel.
Head: John George.
Heath: Henry.
Heelis: William.
Henderson: Henry Arthur.
Heron: William Charles.
Herring: William Arthur Warwick.
Hickson: Stephen Westby.
Higgins: George.
Hill: Samuel.
Hilton: John.
Hine: George Ernest.
Hine: George Thomas.
Hobson: Frederick William.
Hodge: Leonard Percival.
Hodson: George.
Hodson: William.
Holcombe: Walter.
Holdsworth: Frederick Henry.
Holland: Thomas James, Jun.
Hollingsworth: Arthur Augustus.
Holman: George Edward.
Holmes: Montagu.
Hood: Hon. Victor Albert Nelson
Hope: William Elliott.
Hopkins: Alfred James.
Horne: Edmund.
Horne: William Edgar.
Horsey: Frederick.
Horsey: Frederick John Terry.
Houghton: Frederick.
Houghton: John Pounds.
Houghton: William.
Hovenden: Henry Edward.
Howard: Alfred.
Hudson: Arthur Byrne.
Hudson: Edward William.
Hudson: William.
Hugman: Charles Eady.
Hull: Charles.
Humphreys: Charles.
Hunt: Frederick Cope.
Hunt: Frederick William H.
Hunt: Henry Arthur.
Hunt: Josiah.
Hunter: Cecil.
Huxley: Walter Freeman.

l'Anson: Edward Blakeway.
Iogram: Henry Law.
Inman: Marshall Nisbet.
Inman: William Nutter.

Jenkinson: William Wilberforce.
Johnson: Henry.
Jonas: Henry.
Jones: Charles.
Jones: Charles Frederick.
Jones: Frederick Herbert.
Jones: Henry Arthur.
Jones: Thomas.
Jopling: Joseph.
Joseph: Delissa.

Kedgley: Charles.
Keirle: Robert.
Kennedy: James.
Kerl: William James.
Kersey: Alexander Henry.
King: Alfred.
Koch: John Godfrey.

LONDON AND NEIGHBOURHOOD—*continued.*

Fellows:—

Lacey: John Turk.
Lambert: Godfrey Charles.
Lambert: William.
Lang: Charles Augustus.
Lansdown: George.
Laurance: Walter.
Lawrence: William Robert.
Leane: George Henry.
Leaning: John.
Lee: Charles Williams.
Lee: Frederick.
Lee: Philip Shirling.
Lee: Sydney Williams.
Leonard: Henry Holmes.
Le Rossignol: Francis.
Letts: Thomas Hollins.
Lightfoot: Francis Lowry.
Lines: Richard Samuel.
Littlewood: Lionel.
Lockyer: Gilbert Edward.
Lofts: Henry.
Lofts: Henry Fairlam.
Lovegrove: Henry.
Low: Robert John.
Lowe: Charles Harlowe.

MacCallum: Alexander Duncan.
McKie: Hugh Unsworth.
Mallett: William Robert.
Mann: Charles John.
Mann: James Bagshaw.
Mann: Robert Bagshaw.
Mann: Robert Wilks.
Marks: Hyman.
Marr: James.
Marriott: George Wharton.
Martin: George Dennis.
Martin: Howard.
Masterman: George Hughes.
Mathews: Joseph Douglas.
Mathews: William.
Maude: Raymond William.
Meade: Thomas de Courcy.
Mellor: Thomas Henry.
Middleton: Reginald Empson.
Migotti: Alphonzo.
Millard: Edward.
Millar: Charles William.
Mixer: Edward.
Monckton: Henry Percival.
Monier-Williams: Stanley Faithful.
Montagu: Henry Havelock.
Moody: Thomas.
Moore: Alfred.
Moore: Harold Edward.
Morris: George Field.
Morris: Harold George.
Mould: Graham Harley.
Muller: John Joseph.
Mundy: Thomas Edward.
Murray: William.

Neale: George James.
New: Edward Vorley.
Newman: Arthur Harrison.
Newman: Charles Henry.
Newmarch: Henry Charles.
Newson: Harry Carsa.
Nichols: Daniel Cubitt.
Nicholson: Anaelm.
Nicholson: William Abernethy.
Norman: James Maurice.

LONDON AND NEIGHBOUR-
HOOD—*continued.**Fellows :—*

Norman: William Horace.
North: George.
Northcroft: Henry.
Notley: Richard Albert.
Notley: Robert Pledge.

Oakley: Christopher,
Member of Council.

Oakley: John Hubert.
Osborne: Alfred William.
Orgill: John Berwick.
Orr: Cecil.

Page: Robert.
Pain: Coard Squarey.
Pain: William.
Paine: Edward Jabez.
Parker: Charles Alfred.
Parker: Stanley.
Parnacott: Alfred.
Parr: Samuel.
Parr: Samuel George.
Parry: Richard.
Paul: Alan.
Paxton: Edward Hayton.
Payne: Alexander.
Peck: William Roland.
Penfold: John Wornham,
Honorary Secretary.
Perriam: Alfred Joseph.
Pether: Harry.
Pilditch: Philip Edward.
Pinks: Edwin Charles.
Poston: Henry.
Powell: Frederick Atkinson.
Pownall: George Harry.
Price: Thomas William.
Pridmore: Albert Edward.
Pridmore: Arthur Stirling.
Protheroe: William Henry.
Purchase: Edward Keynes.
Purves: Peter.

Quick: Frederic William.

Ranson: Thomas Robert.
Rawlins: Henry Adair.
Rawlins: William.
Read: George Huntly.
Reddall: David Gadsden.
Rees: William Andrew.
Reid: Patrick Sandeman.
Rex: Francis Herbert.
Rex: William.
Richards: Alfred.
Richards: Henry.
Richards: Henry Brinley.
Richards: Thomas Robert.
Richards: William.
Richardson: Oliver Archer.
Richmond: Walter Coleridge.
Rickman: Thomas Miller.

Member of Council.

Riddle: Frederick Henry Brimble.
Roberts: Charles Quincey.
Roberts: Henry Croydon.
Roberts: Richard.
Robins: Edward.
Robins: Edward Cookworthy.
Robinson: Charles Edward.
Robinson: Henry.

LONDON AND NEIGHBOUR-
HOOD—*continued.**Fellows :—*

Robson: Edward Robert.
Rogers: William Bennett.
Roods: Alfred.
Rooke: Alfred Bradley.
Ruault: John Gustave Peter.
Rudkin: Arthur John.
Rumble: Harry Humphrey.
Rüntz: Ernest Augustus.
Russell: Murray Lawrence.
Rushworth: Edmund Walter.
Rutley: Charles.
Rutley: Frank.
Ryan: William Patrick.
Ryde: Arthur Lyon.
Ryde: Charles Bertram.

St. Quintin: Perry.
St. Quintin: Richard Samuel.
Sanday: George Henry.
Sargeant: John.
Saunders: Cecil George.
Saunders: Charles Herbert.
Saunders: Edward.
Saunders: Martin Luther.
Saunders: Rutland.
Savill: Alfred.
Savill: Alfred, Jun.
Selby: Charles Frederic.
Seth-Smith: William Howard.
Shackle: Edward Neild.
Sheppard: Ernest.
Sherrin: John Lester.
Sherwin: Joseph Henry.
Shilcock: James.
Shone: Isaac.
Shoppee: Charles Herbert.
Shoppee: Charles John,
President.

Simms: Walter.
Single: Arthur.
Skitt: Arthur.
Slade: James Benjamin.
Smallpeice: George Baker.
Smith: Edward.
Smith: Frank Adams.
Smith: Frederick Robert.
Smith: Henry.
Smith: Henry Herbert.
Smith: John Moore.
Smith: Percy Pyne Caldecott.
Smith: Sidney Robert James.
Snelling: Henry.
Spink: Thomas.
Squarey: Elias Pitts,
Past-President.
Squarey: Newell William Pitts
Squire: Richard.
Stanger: Caleb.
Stanger: Samuel Arthur.
Stanham: George Gordon.
Stedman: Charles Mason.
Stenning: Alexander Rose.
Stephenson: Charles William.
Stevens: Charles Vivian.
Stevens: John William.
Stevens: William Charles.
Stevenson: Edmund Herbert.
Steward: Herbert Thomas,
Member of Council.
Stock: Henry.
Stokes: Frederick Vincent.
Stoner: Alfred.

LONDON AND NEIGHBOURHOOD—continued.

Fellows :—

Street: William Charles.
Strudwick: Hayward James.
Strudwick: William Henry.
Strutt, Hon. Edward Gerald.
Swain: Ernest.
Swain: Frank.

Tabberer: Benjamin.
Tanner: Henry.
Tapp: Arthur.
Tasker: Henry Hugh.
Tatham: George Henry.
Taylor: Arthur William.
Taylor: Edward Fergusson.
Taylor: John Herbert.
Taylor: Richard Frederick.
Tewson: Edward.
Tewson: Edward Arthur.
Theobald: Henry.
Theobald: Henry Wells Dewhurst.
Thomas: John Henry.
Thompson: Arthur Edward.
Thompson: George William.
Thurgood: Herbert John.
Thurgood: William Henry.
Thynne: Edward Lewis.
Thynne: Frederick George.
Thynne: Guy Harry.
Tidman: Edward.
Tootell: Richard William.
Trafford: Frederick Charles.
Treadwell: Henry John.
Trist: John William.
Trollope: Charles Brown.
Trollope: Henry Charles.
Trumper: John Alfred.
Trumper: Richard.
Tabbs: Walter Burnell.
Tuckett: Philip Deball.
Turner: Alexander Henry.
Turner: Thomas Neve.
Tunley: George.
Tyser: Richard.

Vaizey: John George.
Venables: Frederick.
Vernon: Arthur.

Member of Council.

Vigers: Astley.
Vigers: Edward.
Vigers: Leslie Robert.
Vigers: Martin.
Vigers: Robert.

Member of Council.

Wadling: Henry John.
Wadmore: Beauchamp.
Wagstaffe: Thomas Rogers.
Walcott: Lyons Roden Sympson.
Walker: Robert.
Walker: Samuel.
Wallace: George.
Walmisley: Arthur Thomas.
Ward: George.
Warner: Alfred Ernest.
Warner: William Henry.
Waters: William Richard.
Watney: Daniel.
Vice-President.
Watney: Dendy.

LONDON AND NEIGHBOURHOOD—continued.

Fellows :—

Watney: Walter Daniel.
Watson: Alfred.
Watts: Charles.
Weatherall: Henry.
Weaver: William.
Webb: William.
Wharton: Thomas George.
Whitaker: George.
White: William Henry.
Whiteley: Charles Percy.
Widnell: Frederick Grainger.
Wilkinson: George Ayscough.
Wilkinson: George Herbert.
Wilkinson: William.
Williams: Leonard James.
Williams: William Herbert.
Wilson: Sir Jacob.
Wilson: Stephen Barton.
Wilson: William Henry.
Withall: Latham Augustus.
Withall: Richard Augustus.
Wood: Charles Bruce.
Wood: Henry.
Wood: John Daniel.
Woodbridge: Stephen, Jnn.
Woods: Henry.
Woods: Thomas.
Woodthorpe: Edmund.
Woodward: William.
Wreathall: Robert T.
Wright: George Thomas Green.
Wrightson: Arthur Frederick.

York: Henry.
Young: Andrews.
Young: Douglas.
Young: Morgan Henry.
Young: Thomas.

Professional Associates :—

Abrams: Benjamin Percy.
Assiter: Harry G.
Aylen: Cecil Hugh.

Baker: Cecil Cantley.
Ball: James Benjamin.
Ballard: William Washington.
Beadel: Henry Grant.
Beadel: Maurice Frederick.
Beven: Septimus.
Bousfield: Edwin Vaughan Davenport.
Briggs: John.
Brown: George Turville.
Brown: William Arthur.
Buckland: William Thomas.
Bulbeck: George.
Buss: Fleetwood George William.

Cardall: Frederic William.
Carter: Alfred Presley.
Chalcraft: Henry Terrill.
Chapman: Vaughan Godfrey St. John.
Child: Edmund Herbert.
Clayden: Walter.
Collier: Arthur Charles.
Cooke: Lionel.
Cooke: William George.
Cope: Henry James.
Cresswell: John Theodore Ross.
Crier: John Thomas.

LONDON AND NEIGHBOURHOOD—continued.

Professional Associates:—

Cross: Arnold Charles Martin.
 Cross: John.
 Crouch: James Leonard.
 Cudlipp: William.
 Cumberbatch: Carlton Parry.

Daffarn: Thomas Alfred.
 Davies: David Thomas.
 Dawson: Walter Henry.
 Debenham: Frank Bridgewater.
 Debenham: Horace Bentley.
 Dendy: William Cooper.
 Drew: Allen.
 Dunning: Bernard Simon.

Easton: Edward.
 Evered: Gilliebrand Elwio.
 Everett: Arthur Sherman.

Few: Harry Garrard.
 Fitness: John Francis.
 Fletcher: George Rivers.
 Furd: Solomon.
 Foster: James Herbert Furmedge.

Galsworthy: Vincent Somers.
 Garrard: Arthur Norman.
 Gore: William Joll.
 Gow: James.
 Grant: Joseph.
 Green: Alexander Ernest.
 Green: Edmund Horace.
 Grant: Harry Græme.
 Green: James Henry Townsend.
 Greenop: Edward.
 Griggs: Henry Jenner.
 Grimes: Ralph Fearon.

Hales: Arthur John.
 Hamilton: John Paynter.
 Hampton: George Frederick William.
 Harding: Frederick Alleroff.
 Harper: Edgar Josiah.
 Hebden: George Radcliffe.
 Hedgor: Arthur Constantine.
 Hellicar: George Thomas.
 Henry: Edward Hugh.
 Hicks: Stanley.
 Holmes: James Thomas.
 Howell: Ernest John.

Jarman: Frank Wilmot.
 Jessett: Charles.
 Jessett: Charles Edward Vernon.
 Johnson: Bernard Marr.
 Johnston: Andrew.
 Jordan: George Henry.
 Jull: William Vincent.

King: William Isaac.
 Knight: George Edward.

Lansdown: George Arthur.
 Larkin: Richard Webster.
 Leaning: Henry John.
 Lee: John Wilfrid.
 Lewis: Arthur Llewelyn.
 Lightfoot: John George.
 Lovesay: William.
 Lowe: Charles Robert.
 Lucas: Joseph.

LONDON AND NEIGHBOURHOOD—continued.

Professional Associates:—

Lumley: Julian Arthur.
 Lynch: James Henry.

Mason: Charles William Hayley.
 Mead: John Henry.
 Mellenfield: James Henry.
 Melrose: Frank.
 Merrett: James.
 Morris: Richard Percival.
 Morrish: Hugh Kenneth.
 Moses: Henry.
 Moss: Thomas Walter.

Newman: Samuel Frank.

Oakley: Christopher Percival.
 Ogden: Michael Guy.
 Ouvry: Peter Arnold.

Page: Thomas Gowland.
 Pearce: Frederick William.
 Pearce: William John.
 Perks: Sydney.
 Pewtress: Herbert Wilmshurst.
 Phillips: John Henry.
 Physick: Walter Frederick.
 Pinder: Richmond.
 Potter: Herbert George.
 Prall: Herbert Alexander.
 Price: Richard Arnold.
 Puckridge: Percival Martin.

Roberts: Charles Gordon.
 Robinson: Henry Herbert.
 Robinson: James Thomas.
 Ross: David James.
 Ruddle: Frank J.

Sabin: Joseph Henry.

Professional Associate of Council.

Sadler: George William, Jun.
 Satchell: Herbert Arnold.
 Saunders: Samuel Brown.
 Savill: Edwin.
 Selby: Frank.
 Sexby: John James.
 Sherry: Nathaniel.
 Skingle: Alfred.
 Slade: Isaac.
 Smith: James.
 Smyth: Edward.

Professional Associate of Council.

Stacey: William.
 Stainton: Francis Charles.
 Stenning: Percy Haines.
 Stevenson: Frederick J.
 Stower: Joseph.
 Sturgess: John Moore.
 Sturley: Arthur Dyson.
 Summerfield: Joseph Chas.

Taylor: George.
 Thompson: Alfred.
 Turgood: Ernest Charles.
 Tory: John Edward.
 Townsend: George James.
 Tuckett: Percival Fox.
 Tylor: James William.

Verity: Ernest George.

LONDON AND NEIGHBOUR-
HOOD—continued.*Professional Associates :—*

Wain: George Sparrow.
Walker: Leon Victor.
Warton: Wilfred.
Watson: George.
Webster: Hugh Calthrop.
Wells: Edward Ogbourn.
Wells: William Henry.
Weston: George.
Wheeler: Charles Trevor Ogle.
Wheeler: John Henry.
Willoughby: Charles William.
Wilson: John Hayes.
Woods: Arthur George.
Worthington: James Scott.

Associates :—

Banks: John Eldon.
Barnes: George Frederick.
Barry: John Wolfe.
Associate of Council.
Batten: John Winterbotham.
Beale: James Samuel.
Bidder: George Parker, Q.C.
Birch: Robert William Peregrine.
Boulger: George Edward Simonds.
Bramwell: Sir Fredk. Joseph, F.R.S.
Bund: John W. Willis.

Cadell: George.
Castle: Edward James, Q.C.
Clarke: Sir Edward, Q.C., M.P.
Clarke: Ernest.
Clode: Walter.
Clinton: Hubert Spencer.
Cripps: Charles Alfred, Q.C.

Dowden: Walter Alfred Allen.
Druce: Samuel Benjamin Large.

Emden: T. Walter L.

Fowler: Sir John.
Freeman: George Mallows.
Freshfield: Edwin.
Freshfield: William Dawes.

Goldney: Gabriel Prior.
Grantham: Richard Fuge.
Gully: William Court, Q.C., M.P.

Hamilton: Henry Best Hans.
Hamond: Thomas Astley Horace.
Hudson: Alfred Arthur.

James: Sir Henry, Q.C., M.P.

Ledgard: Frederick Thos. Darell, Q.C.
Leworthy: John Henry.
Littler: Ralph Daniel Makinson, Q.C.

Marriott: The Right Hon. Sir William
Thackeray, Q.C., M.P.
Marshall: Frederick.
Mence: Phillip Allan.
Meysey-Thompson: Albert Childers.
Moulton: John Fletcher, Q.C.
Munton: Francis Kerbridge.

Philbrick: Frederick Adolphus, Q.C.

LONDON AND NEIGHBOUR-
HOOD—continued.*Associates :—*

Pollard: Edward Hutchinson.
Pope: Samuel, Q.C.
Potter: William, Q.C.

Quick: Joseph.

Rees: John Charles.
Rex: Robert Henry.
Rickards: Arthur George.
Rigg: Herbert Addington.
Ryde: Walter Cranley

Saunders: Herbert Clifford, Q.C.
Shoppee: Gerald Augustine.
Sladen: St. Barbe.
Statham: William Arnold.
Stephens: Pembroke S., Q.C.
Stevens: William Richard.
Sutton: Henry.

Thomas: George James.

Walker: James Douglas, Q.C.
Warren: Reginald Augustus.
Webster: Sir Richd. Everard, Q.C., M.P.
Associate of Council.

Wheeler: Thomas Whittenbury, Q.C.
White: His Honour Judge Frederick
Meadows.
Will: John Shireess, Q.C., M.P.
Winckworth: Lewis.

MONMOUTHSHIRE.

DIXTON.

Fellow :—

Wanklyn: Phillip Endell.

MONMOUTH.

Fellow :—

Powell: Frederick Atkinson.

NEWPORT.

Fellows :—

Graham: William.
Hitchcox: William.
Rees: William George.
Tanner: William.

NORFOLK.

ATTLEBOROUGH.

Fellows :—

Bacon: Frank Mace.
Bacon: Horace.
Salter: William Herbert.

CASTLE RISING.

Fellow :—

Beck: Arthur Clement.

COSTON.

Fellow :—

Atkins: Sydney George.

NORFOLK—*continued.*

DISS.

Fellow :—

Gaze: Thomas William.

DOWNHAM MARKET.

Fellow :—

Hawkins: Charles.

EAST DEREHAM.

Fellow :—

Ireland: Edwin Benjamin.

EAST RAYNHAM.

Fellow :—

Gayford: Henry John.

FUNDENHALL.

Fellow :—

Bailey: Harry David Chinery.

HOLKHAM.

Fellow :—

Davey: John George Ellis.

HORSTEAD.

Fellow :—

Falcon: Michael.

KIRBY-CANE.

Fellow :—

Upcher: Edward Berners.

KING'S LYNN.

Fellows :—

Wilkin: Horace Martin.

Wright: William Edward.

MERTON.

Fellow :—

Woodforde: Lionel Burnet.

NORWICH.

Fellows :—

Beck: Edward William.

Eagland: William Francis.

Hornor: Charles Jared.

Hornor: Francis.

Mills: Samuel Mealing.

Morgan: Benjamin Brauford.

Rose: Thomas.

Scott: Augustus Frederic.

Scriven: Charles Herbert.

Spelman: Clement Charles Rix.

Professional Associates :—

Forster: Walter Hill.

Menzies: Robert.

Spelman: William Wilton Rix.

SANDRINGHAM.

Fellows :—

Beck: Arthur Clement.

Beck: Frank Reginald.

NORFOLK—*continued.*

THETFORD.

Fellow :—

Barker: Caleb.

WEST RUDHAM.

Fellow :—

Freuer: William.

NORTHAMPTONSHIRE.

BRACKLEY.

Fellow :—

Russel: Robert John.

HORTON.

Fellow :—

Cave: Thomas Newman.

KETTERING.

Fellow :—

Bolam: Charles Godfrey.

NORTHAMPTON.

Fellows :—

Cave: Henry H.

Law: Edmund.

Merry: Thomas.

Scriven: Richard George.

OVERSTONE.

Fellow :—

Dickson: Thomas Arthur.

PETERBOROUGH.

Fellows :—

Edwardes: Charles Bidwell.

Laurance: John.

Lyster: Thomas Rice Somerville.

Norton: Thomas Herbert.

THRAPSTONE.

Fellow :—

Bletsoe: Henry Hopkinson.

WELLINGBOROUGH.

Fellow :—

Cutlan: John Ellis.

NORTHUMBERLAND.

ALNWICK.

Fellows :—

Tomlinson: Thomas.

Wheler: Edward Galton.

Wilson: Sir Jacob.

BOTHAL.

Fellows :—

Sample: Thomas.

Sample: William Collings.

NORTHUMBERLAND—continued.

GOSFORTH.

Fellow :—

Aynsley: Robert John.

MATFEN.

Fellow :—

Sample: Charles Herbert.

NEWCASTLE-UPON-TYNE.

Fellows :—

Armstrong: Thomas John.

Belam: William Thomas.

Forsyth: Thomas Hills.

Nicholson: Thomas Cooke.

Taylor: John William.

WYLAM.

Fellow :—

James: Christian Hugh.

NOTTINGHAMSHIRE.

BABWORTH.

Fellow :—

Parkin: William.

BEESTON.

Fellow :—

Bowley: John Cross.

CLIFTON.

Fellow :—

Haynes: Henry.

EAST BRIDGFORD.

Fellows :—

Beaumont: Charles.

Beaumont: George.

EPPERSTONE.

Fellow :—

Huskinson: William Lambe.

Professional Associate :—

Huskinson: Thomas William.

MANSFIELD.

Fellows :—

Neale: Charles James.

Turner: Frederick John.

Vallance: Robert Frank.

Professional Associate :—

Butterworth: Josiah.

NEWARK-UPON-TRENT.

Fellow :—

Bailey: William Smith.

NOTTINGHAM.

Fellows :—

Barnes: John William James.

Calvert: Arthur Richard.

Evans: Robert.

Hine: George Thomas.

Jackson: Frederick William.

Walker: Herbert.

Walker: Joseph.

Professional Associates :—

Leverton: Frank John Waldemar.

Payne: William Percy.

NOTTINGHAMSHIRE—continued.

NUTTALL.

Fellow :—

Taylor: Samuel.

OLLERTON.

Fellows :—

Bell: Joseph Askew.

Wordsworth: Robert Walter.

OSBERTON.

Fellow :—

Lister-Kaye: Charles Wilkinson.

RADCLIFFE-ON-TRENT.

Fellow :—

Morris: Charles.

RETTFORD.

Fellow :—

Walker: Joshua.

SOUTH COLLINGHAM.

Fellows :—

Wigram: John.

Woolley: Reginald.

Woolley: Thomas Cecil Smith.

WOLLATON.

Fellows :—

Wright: Charles William.

Wright: William.

Member of Council.

WORKSOP.

Fellow :—

Turner: Thomas Warner.

Professional Associate :—

Bower: Arthur Wentworth Chivers.

OXFORDSHIRE.

BANBURY.

Fellow :—

Russel: Robert John.

BICESTER.

Fellows :—

Castle: George Richard.

Holiday: Frederick Dean.

Little: William Davis.

BRUERN.

Professional Associate :—

Venning: Alfred John Meybohm

HENLEY-ON-THAMES.

Fellows :—

Beaver: William Frederick Holt.

Simmons: Charles.

Simmons: Charles Franklin.

Simmons: William Anker.

KIDLINGTON.

Fellow :—

Scroggs: William.

OXFORDSHIRE—*continued.*

KIRTLINGTON.

Professional Associate :—
Dashwood : Frederick Loftus.

OXFORD.

Fellows :—
Castle : Arthur.
Field : Francis Hayward.
Galpin : Charles Alexander.
Lightfoot : Henry Le Blanc.

Professional Associates :—
Castle : Harold.
Rose : Edward Joseph.

TETSWORTH.

Fellow :—
Watson : John.
Professional Associate :—
Watson : James Bruce.

WITNEY.

Fellow :—
Habgood : Henry Charles.
Professional Associate :—
Bateman : Arthur Charles.

RUTLANDSHIRE.

EXTON.

Fellow :—
Formby : Geoffrey Oswald.

OAKHAM.

Fellows :—
Royce : David Needham.
Royce : John.

SHROPSHIRE.

ASTON-ON-CLUN.

Fellows :—
Ward : Felix John.
Wooler : Walter Hernaman.

BROSELY.

Fellow :—
Thursfield : Thomas Howells.

BRIDGNORTH.

Fellows :—
De Wend : William Fenton.
Southwell : Charles Josiah.
Wyley : Henry James.

CHIRBURY.

Fellow :—
Morris : Edward Henry.

SHROPSHIRE—*continued.*

CLEOBURY NORTH.

Fellow :—
Dodgson : Wilfred Longley.

ELLESMERE.

Fellow :—
Tower : Brownlow Richd. Christopher.

HINSTOCK.

Fellow :—
Loring : John.

KNOCKIN.

Fellow :—
Griffiths : Edward, Jun.

LEATON.

Fellow :—
Hickman : Thomas.

LUDLOW.

Fellows :—
Dodgson : Wilfred Longley.
Fenn : Thomas.

LYDBURY NORTH.

Fellow :—
Newill : Robert Henry.

MUCH WENLOCK.

Fellow :—
Selby-Bigge, Charles P. O.

OSWESTRY.

Fellow :—
Lawford : William Robinson.

SHIFNAL.

Fellow :—
Lane : Cecil Newton.

SHREWSBURY.

Fellows :—
Bather, John T.
Burd : Laurence.
Burd : Timotheus Henry.
Davis : Alfred Thomas.
Evans : William Ernest.
Hall : William Timothy.
Owen : Henry.
Wyley : William John.

Professional Associates :—
Armytage : Francis Reginald.
Salt : Reginald Nowell.

UPPINGTON.

Fellow :—
Ashdown : Augustus Harding.

WHITCHURCH.

Fellow :—
Palamountrain : Joseph William.

SOMERSETSHIRE.

BATH.

Fellows :—

Farwell: Frederick George.
Silcock: Thomas Ball.
Spackman: Charles Chantry.
Spackman: Henry.

Professional Associate :—

Thomas: Edward Morgan Dawson.

BRUTON.

Fellow :—

Bennett: Thomas Oatley.

Professional Associate :—

Cheney: Edwin John.

CLEVEDON.

Fellow :—

Cruse: Edmund.

HUTTON.

Fellow :—

Edwards: Arthur Phippen.

KEYNSHAM.

Fellow :—

Daniel: Harry Augustus Hood

LONG ASHTON.

Fellow :—

Walker: Joseph Arthur.

MISTERTON.

Fellows :—

Combes: Cyrus.
Parsons: Frank Donisthorpe.
Parsons: Henry.
Parsons: Robert Maurice Peters.

NORTH CURRY.

Fellow :—

Peard: John Grigg.

NYNEHEAD.

Fellow :—

Bailey: Stephen.

SHEPTON MALLETT.

Fellows :—

Heard: Herbert.
Wainwright: Charles Rawlinson.

SOUTH PETHERTON.

Fellow :—

Hebditch: William Benjamin.

TAUNTON.

Fellows :—

Hussey: Frank Tooze.
Knollys: James Edward.

WELLS.

Fellows :—

Hippisley: Edwin.
Hippisley: Edwin Maggs.
Hippisley: William John.

SOMERSETSHIRE—continued.

WESTON-SUPER-MARE.

Fellow :—

Mylne: William John Home.

WILLITON

Fellow :—

Andrew: Thomas Hawkes.

STAFFORDSHIRE.

BRERETON.

Fellow :—

Hussey: Robert.

BURTON-ON-TRENT.

Fellow :—

Winterton: Wm. Moxon.

ENDON.

Fellow :—

Heaton: George Herbert.

KEELE.

Fellow :—

Boothby: Henry Vernon.

LICHFIELD.

Fellows :—

Inge: Charles Henry.
Winterton: Harry John Campion.

LITTLE INGESTRE.

Fellow :—

Mynors: Walter Charles Towers.

MARCHINGTON.

Fellow :—

Hardy: Richard Thomas Ash.

PENKRIDGE.

Fellow :—

Foden: Edward Antrobus.

STAFFORD.

Fellows :—

Sandy: Henry.
Turnor: Exsuperius Weston.

Professional Associate :—
Joyce: Harry Ward.

STOKE-UPON-TRENT.

Fellows :—

Forshaw: Edward.
Lynam: Charles.

TAMWORTH.

Fellow :—

Arnold: William.
Professional Associate :—
Bidwell: Shelford.

STAFFORDSHIRE—continued.

WEST BROMWICH.

Fellow :—

Eayrs: John Thomas.

WOLVERHAMPTON.

Fellow :—

Duncalfe: Henry George.

Professional Associate :—

Vale: Henry.

SUFFOLK.

BECCLIS

Fellow :—

Pells: Arthur.

BURY ST. EDMUNDS.

Fellows :—

Blencowe: George.

Scott: Henry Lacy.

EYE.

Fellow :—

Garrard: Norton Burroughs.

HAVERHILL.

Professional Associate :—

Rand: John.

HORSECROFT.

Fellow :—

Simpson: Robert Thomas.

IPSWICH.

Fellow :—

Spurling: Henry.

Professional Associates :—

Bond: Frederick George.

Haigh: Thomas Frederick.

Hebblethwaite: Charles Henry.

Turner: Percy.

LAVENHAM.

Professional Associate :—

Scott: Thomas.

LIVERMERE.

Fellow :—

Fergusson: James.

LOWESTOFT.

Fellow :—

Pells: Arthur.

NEWMARKET.

Fellow :—

Boa: Andrew.

SOMERLEYTON.

Fellow :—

Rix: George Kerry.

SUFFOLK—continued.

SUDBURY.

Fellow :—

Coote: George.

WOODBRIDGE.

Professional Associate :—

Arnott: John.

SURREY.

ADDLESTONE.

Fellow :—

Dash: Thomas Alexis.

CHERTSEY.

Professional Associate :—

Waterer: Clarence.

COBHAM.

Associate :—

Seth-Smith: Archibald.

DORKING.

Fellows :—

White: Charles Alexander.

White: James Alexander.

ENGLEFIELD GREEN.

Fellows :—

Bond: Erasmus.

Menzies: William.

Simmonds: Frederick.

FARNHAM.

Fellows :—

Eggar: James Alfred.

Nash: Alfred James.

Professional Associate :—

Williams: William Welsby.

GODALMING.

Fellow :—

Mellersh: Alfred William.

GUILDFORD.

Fellows :—

Drewitt: George.

Ellis: Ernest Harold.

Lee: William.

Messenger: William Harry.

Smallpiece: George Baker.

KENLEY.

Professional Associate :—

Dudley: Edgar.

KINGSTON-ON-THAMES.

Fellows :—

Dawson: John George.

Horsfield: J. Nixon.

Page: George Frederick.

Phillips: William Edwin.

SURREY—continued.

LEATHERHEAD.

Fellow :—
Noel: Byron Bruce.

MITCHAM.

Fellow :—
Chart: Robert Masters.

MOLESEY (EAST).

Fellow :—
Moore: Algernon.

REDHILL.

Fellow :—
Stacey: Harrie.
Professional Associate :—
Mew: Robert Heath.

REIGATE.

Fellows :—
Burchell: Sidney Herbert.
Clutton: Henry.
Clutton: Ralph William.
Dyball: Sextus.
Lees: John.
Pym: George Edwin.
Professional Associates :—
Bellingham: Archibald Turner.
Thornton: William Henry.
Associate :—
Head: John Merriek.

RICHMOND.

Fellows :—
Chancellor: Albert.
Houghton: John Pounds.
Maynard: Edward.
Slater: Charles Frederick.
Professional Associates :—
Crookes: Charles Reginald.
Partridge: Edward John.

WALTON-ON-THAMES.

Fellow :—
Dash: Roland Ashford.

WEYBRIDGE.

Fellow :—
Syngé: Edward Millington.
Professional Associate :—
Rigden: Charles Furner.

SUSSEX.

BRIGHTON.

Fellows :—
Parsons: Frederick Cecil.
Welch: Frederick William.
Wilkinson: Thomas.
Wood: Frederick.
Professional Associate :—
Udny: Augustus Charles.
Associate :—
Wing: Thomas Twining.

SUSSEX—continued.

CHICHESTER.

Fellows :—
Hobgen: Francis Neale.
Hobgen: Thomas Cecil.
Wyatt: Oliver Newman.

CRAWLEY.

Fellow :—
Wood: William.
Professional Associate :—
Taylor: George.

EASTBOURNE.

Professional Associate :—
Woolnough: John William.

EAST GRINSTEAD.

Fellow :—
Turner: Charles.

FIRLE.

Professional Associate :—
Scarlett: Harry.

HAILSHAM.

Fellow :—
Burtenshaw: Albert.

HASTINGS.

Fellows :—
Davey: Henry Thomas.
Dray: Alfred.
Welch: Frederick William.
Wilkinson: Thomas.
Woodhams: James.
Professional Associate :—
Miller: George Frederick.

HAYWARD'S HEATH.

Fellow :—
Bannister: Thomas.

HORSHAM.

Fellows :—
Chasemore: Philip.
King: Frank Hulme.

HOVE.

Fellow :—
Hudson: Edward William.

LEWES.

Fellows :—
Card: Henry Curtis.
Ingram: Walter Fielde.
Morris: Herbert.
Powell: Hubert John.
Powell: Reginald Henry.
Professional Associate :—
Card: Henry.

LITTLEHAMPTON.

Fellow :—
Howard: Harry.

SUSSEX—continued

ORE.

Associate :—

Williams: Thomas D.

PETWORTH.

Fellows :—

Taylor: Matthew.

Watson: Herbert Edward.

PEVENSEY.

Fellow :—

Beard: Edwin Thomas.

RYE.

Fellow :—

Reeve: Kingsnorth.

ST. LEONARD'S.

Associate :—

Benthall: Edward John.

SEAFORD.

Fellow :—

Turner: William Webb.

SOUTHWATER.

Fellow :—

Smith: Sidney.

UCKFIELD.

Fellow :—

Colgate: Thomas.

WADHURST.

Fellow :—

Austen: Frank.

WARWICKSHIRE.

ALCESTER.

Fellow :—

Raikes: Col. George Whittington.

BIRMINGHAM.

Fellows :—

Arnold: William.

Bettridge: Edward.

Clarke: Richard.

Couchman: Robert Edward.

Fowler: Gerard Edmund.

Fowler: Henry.

Fowler: Richard.

Fowler: William.

Gibson: Denston.

Godfrey: Robert.

Grimley: Edwin Fearn.

Grimley: Thomas.

Hedley: Robert Wilkin.

Hendriks: Henry.

Holbeche: Robert Neville.

Jenkins: Oswald.

Kenwrick: George.

Ludlow: Walter Robert.

WARWICKSHIRE—continued.

BIRMINGHAM.

Fellows :—

Mason: William Arthur.

Mathews: George Spencer.

Mathews: William,

Member of Council.

Pemberton: Charles Oliver Paget.

Robins: William Henry.

Roderick: John.

Smith: Frank.

Williams: Edward.

Willmot: George Dyott.

Willmot: John.

Professional Associate :—

Hadley: Frank.

KENILWORTH.

Fellow :—

Whittdale: James.

LEAMINGTON.

Fellow :—

Fayerman: George Metcalfe.

LEEK WOOTTEN.

Fellow :—

Donne: Henry.

MILVERTON.

Fellow :—

Smith: Frank William.

NUNEATON.

Fellow :—

Evans: Walter Pearson.

STRATFORD-ON-AVON.

Fellow :—

Deer: Edward.

WARWICK.

Fellows :—

Couchman: Henry Boteler.

Fosbery: William Thomas Exham.

Margetts: John William.

WESTMORELAND.

KENDAL.

Fellows :—

Banks: John.

Hoggarth: Arthur.

Hoggarth: Edwin.

Webster: Alexander.

KIRKBY LONSDALE.

Fellow :—

Punchard: Frederick.

MILNTHORPE.

Fellow :—

Holme: John.

WILTSHIRE.

CHIPPENHAM.

Fellows :—

Holloway : Thomas.
Marshall : Lionel Hasler.
Napier : Henry Burroughes
Smith : Henry Herbert.
Watkins : Robert Arundel.

Professional Associate :—

Erinkworth : Robert Edwin.

DEVIZES.

Fellow :—

Canning : William Browne.

DOWNTON.

Fellows :—

Squarey : Elias Pitts,
Past-President.
Squarey : Newell William Pitts.

Associates :—

Fream : William.
Wrightson : John.

MARLBOROUGH.

Fellows :—

Jeanes : Mark.
Pattisson : Jacob Luard.

PEWSEY.

Fellow :—

Ferris : George.

SALISBURY.

Fellows :—

Bath : Fred.
Canning : William Browne.
Gater : Caleb William.
Hannen : Reginald St. John.
Rawlence : Ernest Alfred.
Rawlence : James.
Rawlence : James Edward.
Rigden : Francis.
Rigden : Henry William.
Squarey : Elias Pitts,
Past-President.
Squarey : Newell William Pitts.
Waters : Edward.
Woolley : John Turton.

SWINDON.

Fellows :—

Bishop : Charles.
Pritchett : Ellis Herbert.

TISBURY.

Fellows :—

Combes : Cyrus.
Parsons : Frank Donisthorpe.

TROWBRIDGE.

Fellows :—

Foley : John Howard.
Mundy : Herbert.

Professional Associate :—

Snailum : Walter Wadman.

WILTSHIRE—continued.

WINCHESTER.

Fellow :—

Smith : George Alfred.

WOOTTON-BASSETT.

Fellow :—

Treppin : Ernest C.

WORCESTERSHIRE.

BALSALL HEATH.

Professional Associate :—

Perkins : Joseph.

BROMSGROVE.

Fellow :—

Sanders : Thomas.

EVESHAM.

Fellows :—

Righton : Edward Grantham.
Smith : William.

FRANCHE.

Professional Associate :—

Henderson : Harry Gilbert.

KIDDERMINSTER.

Fellow :—

Joseland : Charles.

KINGS NORTON.

Fellow :—

Tomson : James John.

MADRESFIELD.

Fellow :—

Stallard : William.

MOSELEY.

Professional Associate :—

Barclay : Thomas.

STOURBRIDGE.

Fellows :—

Fiddian : William.
King : Henry.

Professional Associates :—

Barratt : Harry.
Punchard : Frederick Burt.

STOURPORT.

Fellow :—

Clarke : Alfred Dudley.

WORCESTER.

Fellows :—

Buck : Albert,
Member of Council.
Buck : Herbert Wilson.
Everill : Frank.
Parker : William Henry.

YORKSHIRE.

ABERFORD.

Professional Associate :—
Pratar : Thomas Herbert.

BALDERSBY.

Fellows :—
Gregson : William.
Peirson : George Brodrick.

BARNESLEY.

Fellow :—
Wade : John.
Professional Associate :—
Wade : Henry.

BEDALE.

Fellow :—
Clarke : Christopher.
Professional Associate :—
Maughan : John.

BEVERLEY.

Fellow :—
Evans : William.

BINGLEY.

Fellow :—
Armistead : Richard.

BRADFORD.

Fellows :—
Clare : Edward Lovell.
Cowgill : Brian Bollans Hird.
France : Arthur Alderson.
France : Charles.
Gott : Charles.
Gott : Charles Henry.
Hindle : John.
Jackson : Samuel.
Milnes : Eli.
Smith : Frederic Ellison.
Smith : Harry Russell.
Smith : Joseph.
Smith : Wheeler.
Woodhead : William Booth.

BRIGHOUSE.

Fellow :—
Armytage : George John.

BRODSWORTH.

Fellow :—
Baines : Matthew Talbot.

CLAPHAM.

Fellow :—
Bateman : John.

DONCASTER.

Professional Associate :—
Peace : Alfred Lindley.

EEBERSTON.

Fellow :—
Bradley : William Edward.

YORKSHIRE—continued.

GOOLE.

Fellow :—
Hobson : Harry.
Professional Associate :—
Tudor : Edward Charles Buchanan.

GUISBROUGH.

Fellow :—
Clarke : John William.

HALIFAX.

Fellows :—
Buckley : George.
Fox : Charles James.
Horsfall : Richard,
Member of Council.
Horsfall : Richard Edgar.
Jackson : Benjamin Whitehead.

HARROGATE.

Fellow :—
Dent : Ralph John.

HOVINGHAM.

Fellow :—
Hornsby : Robert.

HUDDERSFIELD.

Fellows :—
Abbey : Joe Burman.
Crowther : John Herbert.
Demetriadi : Thomas Marsden.
Dransfield : Henry Brook.
Hanson : John Henry.
Professional Associate :—
Shaw : Arthur.

HULL.

Fellows :—
Bilson : John.
Botterill : William.
Brodrick : John.
Easton : John H.
Fillingham : Edward.
Fryer : George.
Gelder : William Alfred.
Hebblethwaite : Louis.
Tiffen : John Henry.
Tiffen : Joseph.
Todd : William Henry.
Watson : John.
Wellsted : William Henry.
White : Alfred Edward.

KEIGHLEY.

Fellow :—
Broster : Robert Buck.
Professional Associate :—
Weatherhead : David Wilkinson

KIVERTON PARK.

Fellow :—
Carrington : Thomas.

YORKSHIRE—*continued.*

LEEDS.

Fellows :—

Cundy: Hubert John.
 Fenwick: Thomas.
 Gott: Frank.
 Hepper: John.
 Jones: James William.
 Newsam: Samuel Waterhouse.
 Oldroyd: Linley.
 Richardson: John.
 Wien: Thomas.

Professional Associate :—

Muir: James.

LOWTHORPE.

Fellow :—

Piercy: Henry Onslow.

MARKET WEIGHTON.

Fellow :—

Chowen: Henry Llewellyn.

MIDDLESBOROUGH.

Fellow :—

Lofthouse: Roger.

NIDD.

Fellow :—

Swetenham: Henry.

NORTON.

Fellow :—

Abbott: Robert Thomas G.

OULTON.

Fellow :—

Farrer: John.

PENISTONE.

Professional Associate :—

Hinchcliffe: John, Jun.

PONTEFRACT.

Professional Associate :—

Watson: John, Jun.

RAWCLIFFE.

Fellow :—

Wright: James.

REDCAR.

Fellow :—

Rutherford: James.

SHEFFIELD.

Fellows :—

Ellison: Michael.
 Flockton: Thomas James.
 Fowler: Frederick.
 Fowler: Reginald William.
 Innocent: Charles John.
 Mitchell-Withers: John Brightmore.
 Marshall: Peter.
 May: Thomas Henry.
 Wilde: William.

YORKSHIRE—*continued.*

SKIRLAUGH.

Professional Associate :—

Hollis: Ralph.

SLEIGHTS.

Fellow :—

Popple: John.

WAKEFIELD.

Fellows :—

Greaves: John Oldroyd.
 Kaye: John Edward.
 Massie: Frank.

WETHERBY.

Fellow :—

Cundy: Hubert John.

WHITBY.

Fellow :—

Kirkby: Herbert

YORK.

Fellows :—

Cox: Edward Samuel.
 Clutton: William James.
 Forbes: Charles Mansfield.
 Fryer: George.
 Jolly: John Hawkins.
 Walker: Francis Elliott.
 Watson: Herbert Edward.

Professional Associates :—

Carr: Thomas Edmund.
 Kerr: Arthur Herbert.
 Lee: George Cansfield.

IRELAND.

CLARE.

CLARE CASTLE.

Fellow :—

Green: Alfred William.

DERRY.

COLERAINE.

Fellow :—

Given: Maxwell.

DUBLIN.

DUBLIN

Fellows :—

Gibb: William Pashley.
 Grey: Charles Grey
 Miliward: Isaac.

Associate :—

Malden: Walter James.

KILDARE

CURRAGH CAMP.

Fellow :—
Randall: Richard.

MAYO.

MAYO.

Fellow :—
Joynt: George Lawrence.

SHRILE.

Professional Associate :—
Child: Charles Jun.

MEATH.

SLANE CASTLE.

Professional Associate :—
Blunt: Herbert Arthur Scawen.

SCOTLAND.

ABERDEENSHIRE.

ABERDEEN.

Associate :—
Forbes: Alexander.

ARGYLESHIRE

DUNOON.

Fellow :—
Mackintosh: Charles John Maclean.

AYRSHIRE.

KILMARNOCK.

Fellows :—
Duke: Freke Guy Rashleigh,
Turner: Joseph Harling.
Professional Associate :—
Henderson: Richard.

EDINBURGHSHIRE.

EDINBURGH.

Fellow :—
Laurence: Peter.

FORFARSHIRE.

DUNDEE.

Fellow :—
Buchan: Thomas.

LANARKSHIRE.

GLASGOW.

Fellows :—
Barr: James.
Binnie: Thomas.
Brown: William.
Burnet: Frank.
Copland: William Robertson.
Danskin: John.
Hill: Thomas Nelson.
Laing: John.
Lammie: George.
MacDougall: Robert.
Munro: Daniel.
Parnie: James.
Smellie: Thomas Davies
Whyte: William McNicol.
Professional Associate :—
Fraser: William.

SUTHERLANDSHIRE.

GOLSPIE.

Fellow :—
McLean: Donald.

WALES.

ANGLESEY.

LLANFAIR.

Fellow :—
Jones: William Edward.

BRECKNOCKSHIRE.

BRECON.

Fellow :—
Williams: Gerald Garnous.

CRICKHOWELL.

Fellow :—
Coles: Samuel Hood Cowper.

CARMARTHENSHIRE.

LLANWRDA.

Fellow :—
Davies: John Morgan.

LLANELLY.

Fellows :—
Blake: George.
Griffiths: William.
Rosser: William.
Wilkins: William.

CARNARVONSHIRE.

BANGOR.

Fellow :—

Dew: William Arthur.

CARNARVON.

Fellow :—

Williams: William Lloyd.

CRICCIETH.

Fellow :—

Jones: Walter Butler Clough.

PORTMADOC.

Fellow :—

Roberts: Thomas.

DENBIGHSHIRE.

DENBIGH.

Fellow :—

Clough: Richard Charles Butler.

COLWYN BAY.

Fellow :—

Porter: John Merry.

LLANRWST.

Fellow :—

McIntyre: Peter.

LLANGWRN.

Fellow :—

Darley: William.

WREXHAM.

Professional Associate :—

Barker: Geoffrey Lionel.

FLINTSHIRE.

MOSTYN.

Fellow :—

Pickering: William Cloves.

GLAMORGANSHIRE.

CARDIFF.

Fellows :—

Blosse: Edward F. Lynch.

Brown: Thomas Forster.

Corbett: Edwin Wortley Montagu.

Harpur: William.

Rees: Ithel Treharne.

Rigg: Charles.

Rooney: Samuel.

Thomas: George.

Waring: Charles Edward.

Professional Associate :—

Crawshay: Lionel Rutledge.

GLAMORGANSHIRE—continued.

LLANDAFF.

Fellow :—

David: Edmund Ussher.

NEATH.

Fellow :—

Sheppard: Osborne.

PONTYPRIDD.

Fellow :—

Evans: Arthur Owen.

ST. FAGANS.

Fellow :—

Forrest: Robert.

Professional Associate :—

Forrest: William.

SWANSEA.

Fellows :—

Price: Francis Holborrow Glynn.

Rees: William John.

Rosser: William.

MERIONETHSHIRE.

BALA.

Fellow :—

Williams: John.

TOWYN.

Fellow :—

Gillart: David.

MONMOUTHSHIRE.

NEWPORT.

Fellow :—

Graham: Arthur Gore.

PONTYPOOL.

Fellow :—

Llewellyn: David Morgan.

MONTGOMERYSHIRE.

KERRY.

Fellows :—

Birch: Walter de Hoghton.

Poundley: John Edward.

LLANIDLOES.

Fellows :—

Grant: James.

Powell: Evan.

NEWTOWN.

Fellow :—

Owen: William Scott.

WELCHPOOL.

Fellow :—

Addie: William Forrester.

PEMBROKESHIRE.

HAVERFORDWEST.

Fellows :—

Owen : Thomas Henry.

Owen : Thomas Rule.

PEMBROKE.

Fellow :—

Thomas : William.

RADNORSHIRE.

GLASBURY.

Professional Associate :—

Gunter : James.

RHAYADER.

Fellows :—

Lloyd : George Hamilton.

Williams : Stephen William.

FOREIGN PARTS.

BRITISH HONDURAS.

Fellow :—

Usher : Alfred.

CALIFORNIA.

Professional Associate :—

Brevetor : Thomas.

CANADA.

Professional Associate :—

Halton : Harry Russell.

FOREIGN PARTS—continued.

CHICAGO.

Professional Associate :—

Wright : Thomas Hawkins.

CHINA.

Fellow :—

Hancock : William St. John Hu.

COSTA RICA.

Professional Associate :—

Satchell : Charles.

Associate :—

Jough : John Isidore de.

JAMAICA.

Fellow :—

Hodge : Leonard Percival.

Professional Associate :—

Hollis : Herbert.

JOHANNESBURG.

Fellow :—

Farrar : Sidney Howard.

Associate :—

Williams : Thomas D.

MELBOURNE.

Professional Associate :—

Morgan : Alfred Walker.

RANGOON.

Professional Associate :—

Hill : Alfred.

STRAITS SETTLEMENTS.

Fellow :—

Koch : John Godfrey.

The Surbepors' Institution

(INCORPORATED BY ROYAL CHARTER),

12, GREAT GEORGE STREET, WESTMINSTER, S.W.

RULES OF EXAMINATION,

*Framed, July 31st, 1880.**Revised, July 10th, 1883. Further revised, July 8th, 1885,
and July 5th, 1886.**Further revised, August 2nd, 1888. Further revised, July 1889.**Further revised, October 1890. Further revised, October 1891.**Further revised, April 1892.**Further revised, February 1893.*

GENERAL.

(1) *The Examinations are classified under five Divisions.

DIVISION I.—The PRELIMINARY EXAMINATION for admission of Students.

DIVISION II.—The STUDENTS' PROFICIENCY EXAMINATION, qualifying Students for the CLASS OF PROFESSIONAL ASSOCIATES.

DIVISION III.—The EXAMINATION for Candidates (other than Students) desirous of qualifying for the CLASS OF PROFESSIONAL ASSOCIATES.

DIVISION IV.—The EXAMINATION for QUALIFIED PROFESSIONAL ASSOCIATES desirous of qualifying for the FELLOWSHIP.

DIVISION V.—The EXAMINATION for Candidates (other than Professional Associates) desirous of qualifying for the FELLOWSHIP (as revived and modified, April 1892).

(2) The Examinations in Divisions I. and II. are for Students only.

* The official list of the successful Candidates is published in the professional journals. No other intimation of the result is given to the Candidates.

† The range of the various Professional Examinations will be seen on referring to Table E.

Copies of the fuller particulars comprising the Revised Syllabus of Subjects, List of Text Books, and Examples of Papers set at Preliminary and Professional Examinations, can be obtained on application to the Secretary, at the price of 1s. 6d. per copy.

(3) The Examination in Division III. is compulsory for all Candidates (other than Students and Candidates who have passed a Government Examination entitling them to practise as Surveyors in any of the Dependencies of the Crown, and which the Council may accept in lieu thereof) for the Class of Professional Associates.

(4) The Examination in Division IV. is designed to enable Candidates who have passed the Associateship Examination (whether in practice or not on their own account) to qualify for the Fellowship.

(4A) The Examination in Division V. is designed for those in practice on their own account and otherwise qualified as defined in Rules 37 and 38.

DIVISION I.

PRELIMINARY EXAMINATION FOR THE ADMISSION OF STUDENTS.

(5) Any person eligible under the By-Laws,* being desirous of becoming a Student of the Institution, will be required to undergo a Preliminary Examination, with the view of testing his general knowledge and educational acquirements.† The subjects of Examination are as follows:—

EXTRACTS FROM BY-LAWS.

* Students shall be persons not under eighteen years of age, who are or have been pupils of Surveyors, or, who are studying, with a view to entering the Profession, at such places of professional instruction as the Council may approve, and such persons may continue Students until they attain the age of twenty-one years and six months.

Students are admitted by the Council; but no person shall be deemed eligible for admission as a Student unless he shall have passed the Examination declared in the Rules of Examination to appertain to the admission of Students, or have passed some other Examination which the Council may declare in the Rules of Examination to be equivalent thereto, and unless he shall satisfy such other requirements as the Council shall from time to time prescribe as applying to Students.

† *Persons desirous of becoming Students who can produce a Certificate of having passed the Matriculation Examination of the University of Oxford, Cambridge, London, or any other University in the United Kingdom, or who have passed with honours the Senior Local Examination of the University of Oxford or Cambridge, or who have obtained a Higher Certificate at the Examinations of the Oxford and Cambridge Schools Examination Board, will be exempted from this Examination.*

jects.

Elements of Algebra, including Simple Equations.

Euclid—the first three Books.

English History.

Composition and Writing from Dictation.

Some acquaintance with *one* of the three languages, Latin, French, or German, is also required.

Each Candidate will also be subjected to a short *vivâ voce* Examination, to test in a general way his acquaintance with subjects of common knowledge.

(6) Those successful in passing the Examination receive a Certificate to that effect, and are enrolled as Students of the Institution.

te of
amination.

(7) The Examination is held in the month of January in each year. *Applicants must send in their names for approval by the Council, on forms supplied for the purpose, before the end of the preceding month of November.*

posit.

(8) The sum of One Guinea must be deposited with the Secretary by each Applicant before his name can be entered on the Examination List. This Deposit will be forfeited should the Applicant fail to attend on the days of Examination, or should he be unsuccessful in obtaining 200 out of the 300 minimum marks.

arks.

(9) The Candidate passing with the highest number of marks in his year is exempted from the payment of Fees during the term of his Studentship.

(10) The maximum number of marks in Division I. (Students' Preliminary) is 500. The minimum number of marks to qualify for a Certificate as a Student is 300.

PROFESSIONAL EXAMINATIONS.†

DIVISION II.

STUDENTS' PROFICIENCY EXAMINATION.

(Qualifying Students for the Class of Professional Associates.)

(11) A Students' Proficiency Examination is held annually. The Student is expected to present himself at the Examination next preceding the expiration of the term of his Studentship (see foot-note, page 646). But should the unexpired term, counting from the date of such Examination, be greater than six months, the period during which the Student is eligible for the Examination will, *should he desire it* and subject to the disability under Rule 13, be extended to the date of the Examination next following his attainment of the age of twenty-one years and six months,* and notwithstanding the fact that he thereby ceases to be attached to the Institution as a Student, the Council will, as far as possible, continue to accord to him, up to the date of such Examination, the privileges enjoyed by Students.

Where a Proficiency Examination falls within six months of the end of the term of Studentship.

Where more than six months of the Studentship are unexpired at the date of the Proficiency Examination next preceding the end of the term of Studentship.

(12) A Student who attains the age of twenty-one years and six months before the date of the Proficiency Examination next following his enrolment, and thereby ceases to be a Student of the Institution, may, nevertheless, and subject to the disability under Rule 13, enter his name for such Examination, and, notwithstanding the fact that he will cease to be attached to the Institution as a Student, the Council will, as far as possible, continue to accord to him up to the date of such Examination the privileges enjoyed by Students.

Where the applicant at the time of his admission is so nearly twenty-one and a half years old, that no Proficiency Examination occurs until after the end of his term of Studentship.

* EXAMPLE CASES.

CASE 1. A Student born say on the 10th of December, 1869, would be $21\frac{1}{2}$ years old on the 10th of June, 1891, consequently the Examination next preceding the expiration of his Studentship would be that of March, 1891—that is, three months before his attainment of the age of $21\frac{1}{2}$ years.

CASE 2. A Student is born say on the 10th of May, 1870. He consequently attains the age of $21\frac{1}{2}$ years on the 10th of November, 1891. The Examination next preceding the expiration of his Studentship is that of March 1891; but as at that date he would be more than six months under the age of $21\frac{1}{2}$ he has the option of selecting the Examination of March 1891 or the Examination of March 1892.

† The Examinations in Divs. II., III., IV., & V. are held in London only.

TABLE A.]

DIVISION II.

STUDENTS' PROFICIENCY EXAMINATION, QUALIFYING FOR THE CLASS OF PROFESSIONAL ASSOCIATES.

SUB-DIVISION I.—Chiefly Land Agency.	SUB-DIVISION II.—Chiefly Valuation.	SUB-DIVISION III.—Chiefly Building.
1 Land Surveying and Levelling and Elements of Trigonometry. (*See foot-note, [page 651.] 2 Book-keeping. 3 Law of Landlord and Tenant { Elements of; bearing on the Practice of the Land Agent. 4 Agriculture. 5 Construction of Farm Buildings. 6 Forestry, { Or Timber Measuring at the option of the Candidate. 7 Land Drainage. 8 Geology and Composition of Soils.	1 Land Surveying and Levelling and Elements of Trigonometry. (*See foot-note, [page 651.] 2 Book-keeping. 3 Law of Landlord and Tenant (Elements of). 4 Enfranchisement of Copyholds. 5 Mensuration. 6 Law of Fixtures, } 7 Law of Dilapidations, { Elements of; bearing on the Practice of Land Valuation. 8 Law of Easements and Riparian Rights, } 9* Application and Use of Valuation Tables.	1 Land Surveying and Levelling and Elements of Trigonometry. (*See foot-note, [page 651.] 2 Book-keeping. 3 Practical Measuring (Oral Exam.) 4 Bills of Quantities for and Measurement of Artificer's Work, and its Valuation (Parts 1 and 2 in Syllabus). 5 Mensuration. 6 Law of Fixtures, } 7 Law of Dilapidations. { Elements of; bearing on the Construction and Surveying of Houses and Management of House Property. 8 Law of Easements, Light and Air. } 9 Constructive and Working Drawings.

The Student may elect to be examined in either of the above Sub-Division., but must afterwards proceed in the same Sub-Division of Division IV.

NOTE.—A Syllabus showing the approximate range of each Subject can be obtained on application, price 1s. 6d.

* New Subject in this Division.

(13) It will not, however, be open to anyone who has passed the age of twenty-one years and six months to compete at a Proficiency Examination for any of the Scholarships and Prizes open to Students only, nor will he in this case be exempted from the payment of fees under the conditions referred to on page 647.

Disabilities of those over twenty-one and a half years of age as regards competition for Prizes, &c.

Notice of
Candidature.

Deposit.

(14) Students may elect to be examined under any one of the three Sub-Divisions of Table A, which has been arranged on the broad lines of the usual branches of Surveyors' practice; but notice must be given of the Sub-Division (Table A), and the alternative subject (6) if in Sub-Division I. in which the Student elects to be examined, not later than the last week of the month of October, preceding the Examination for which he is declared eligible; and the sum of Three Guineas must be deposited with the Secretary by such Student before his name is entered on the Examination List, as an earnest of his intention to offer himself for Examination on the days appointed. Should the Student fail to obtain 400 out of the 500 minimum marks, the money so deposited will be forfeited. The deposit will also be forfeited should the Student fail to attend on the days of Examination (except for some reason which the Council shall deem sufficient), and his name shall be removed from the List of Students. Otherwise, the amount will be placed to his credit, if and when enrolled a Professional Associate of the Institution, provided that not more than three years elapse between the date of his passing the Examination and the date of his enrolment as a Professional Associate of the Institution.

Marks.

(15) The maximum number of marks in each of the Sub-Divisions I., II., and III. is 1,000. The pass number of marks in this Examination is 500.

Date of
Examination.

(16) The Examinations commence (except when Easter falls inconveniently near the date) about the second Monday in the month of March. A day is devoted to practical work in

the field,* and another day to plotting and drawing the field-work under the superintendence of one of the Examiners.

(17) Those successful in passing this Examination, in either of the Sub-Divisions of Table A, will, when enrolled as Professional Associates, receive an Examination Certificate, and will be distinguished by an asterisk prefixed to their names in the List of Members.

SCHOLARSHIPS AND PRIZES.

(18) The Institution will give a Prize (in the form of Professional Text Books or Scientific Instruments) of the value of 15 guineas, to be called "The Institution Prize," to the Student who obtains the greatest number of marks, over 500, in the Proficiency Examination, in Sub-Divisions I., II., or III.

(19) To signalize conspicuous merit, the title of "Institution Scholar" will be given to the Student who obtains the greatest number of marks, over 900, of any of the Students examined in Sub-Divisions I., II., and III.; and the name of the Student so distinguished will be permanently recorded on the walls of the Lecture Hall.

(20) A Special Prize (in the form of Professional Text Books or Scientific Instruments) of the value of 10 guineas will be given to the Student (not being the "Institution Scholar" or the Winner of "The Institution Prize") obtaining the greatest number of marks, over 500, of anyone examined in Sub-Divisions I., II., and III.

(21) A Prize (in the form of Professional Text Books or Scientific Instruments) of the value of 5 guineas, to be called the "*Vivâ voce* Prize," will occasionally be given to the Student (provided he has obtained the minimum marks in the general Examination), who passes the best *vivâ voce* Examination in some subject appropriate to the Sub-Division for which his name is entered. It is open to any Student to compete for the "*Vivâ voce* Prize," providing he be under 21½ years of

* Candidates are also required to prepare Plans and Sections from actual Survey, and to forward the finished drawings to the Secretary not less than a fortnight before the Examination. A Paper of Instructions may be obtained on application.

age at the date of the Examination, and providing he gives notice of his intention to do so at the same time that he signifies the Sub-Division under which he desires to be examined, in Division II.

Crawter Prize. (22) The Interest accruing on the sum of £200, bequeathed to the Institution by the late Mr. Henry Crawter, and invested in the name of the Corporation, will, from time to time, be applied to providing a Prize (in the form of Professional Text Books or Scientific Instruments) to be called the Crawter Prize.

Driver Prize. (23) A sum of 15 guineas is given annually by a Member of the Council, to provide an additional Prize (in the form of Professional Text Books or Scientific Instruments) to reward conspicuous merit in connection with the Examinations, and will be awarded on such occasions and on such conditions as may be from time to time determined by the Council.

(24) The name of the Winner of the Institution Scholarship and those of the Prize-winners in the various Divisions will be announced at the Annual General Meeting, and the Prizes will be publicly presented to the successful Competitors at that Meeting.

DIVISION III.

EXAMINATION QUALIFYING CANDIDATES (OTHER THAN STUDENTS) FOR THE CLASS OF PROFESSIONAL ASSOCIATES.

(25) Examinations are held in the month of March (contemporaneously with the Students' Proficiency Examination, see last paragraph, page 650), for Candidates (other than Students) for the Class of Professional Associates.

Subjects. (26) This Examination, which comprises the Subjects set out in Table B, is almost identical with the Proficiency Examination for Students, but the minimum pass number of marks is 700 out of 1,200, instead of the 500 out of 1,000 required in the case of Students.*

Marks.

* Candidates are also required to prepare Plans and Sections from actual Survey, and to forward the finished drawings to the Secretary not less than a fortnight before the Examination. A Paper of Instructions may be obtained on application.

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posit.

(27) The Candidate (*who must be over 21 years of age*) will be required, as a preliminary, to fill up and forward a form, (to be obtained of the Secretary,) setting forth his antecedents and professional experiences. This form must be subscribed by at least one Fellow of the Institution, and submitted to the Council for approval not later than the end of the month of October preceding the Examination for which the applicant desires to enter his name. Should the application be approved, the fact will be notified to the Candidate, who must, before the expiration of one month, give notice of the Sub-Division (see Table B), and the alternative subject (6) if in Sub-Division I, in which he elects to be examined, and forward the sum of Three Guineas as an Examination Fee.*

(28) Those successful in passing this Examination in either of the Sub-Divisions of Table B will, when enrolled as Professional Associates, receive an Examination Certificate, and will be distinguished by an asterisk prefixed to their names in the List of Members.

(29) The Candidate will be required to produce a Certificate (on a form to be obtained of the Secretary) from the Surveyor in whose office he is or has been employed, stating the capacity in which he is or has been engaged—whether as pupil or paid assistant—and the time so employed, or, in the case of a Student at a place of professional instruction approved by the Council, a Certificate on a similar form, stating the time over which his studies have extended and the nature and extent of his practical attainments; or he must otherwise satisfy the Council of his eligibility.

* The Examination Fee will not, in future, go to the credit of Candidates in this Division when elected Professional Associates.

TABLE B.]

DIVISION III.

EXAMINATION FOR CANDIDATES (OTHER THAN STUDENTS) FOR THE CLASS OF PROFESSIONAL ASSOCIATES.

SUB-DIVISION I.—Chiefly Land Agency.		SUB-DIVISION II.—Chiefly Valuation.		SUB-DIVISION III.—Chiefly Building.	
1 Land Surveying and Levelling and Elements of Trigonometry.*	Elements of: { bearing on the Practice and Tenant, } of the Land-Agent.	1 Land Surveying and Levelling and Elements of Trigonometry.*	Elements of	1 Land Surveying and Levelling and Elements of Trigonometry.*	
2 Book-keeping.		2 Book-keeping.		2 Book-keeping.	
3 Law of Landlord and Tenant.	Elements of	3 Law of Landlord and Tenant.		3 Practical Measuring (Oral Exam.)	
4 Agriculture.		4 Enfranchisement of Copyholds,		4 Bills of Quantities for and measurement of Artificer's Work, and its Valuation. Parts 1 and 2 in Syllabus.	
5 Construction of Farm Buildings.	{ Or Timber Measuring, at the option of the Candidate.	5 Mensuration.		5 Mensuration.	
6 Forestry,		6 Law of Fixtures,	Elements of: bearing on the Practice of Land Valuation.	6 Law of Fixtures.	
7 Land Drainage.		7 Law of Dilapidations,		7 Law of Dilapidations,	Elements of, bearing upon the Construction and Survey of Buildings and Management of House Property.
8 Geology and Composition of Soils.		8 Law of Easements and Riparian Rights,		8 Law of Easements, Light and Air,	
9 Agricultural Chemistry (Parts 1, 2, and 3 of Syllabus.)		9† Application and Use of Valuation Tables.		9 Constructive and Working Drawings.	
		10 Algebra, including Quadratic Equations.		10 Composition and Properties of Stones and Cements.	

The Candidate may elect to be examined in either of the above Sub-Divisions, but must afterwards proceed in the same Sub-Division of Division IV.

NOTE.—A Syllabus showing the approximate range of each Subject can be obtained on application, price 1s. 6d.

* The requirements of the foot-note to page 651 apply also to Candidates in this Division.

† New Subject in this Division.

DIVISION IV.

QUALIFIED PROFESSIONAL ASSOCIATES' EXAMINATION FOR
THE CLASS OF FELLOWS.

(30) Examinations for the Fellowship are held, contemporaneously with the Examinations for the Class of Professional Associates, for :—

Candidates who have previously passed the Examination in Division II. or III.

(31) Candidates in Division IV. must pass the Fellowship Examination, in the subjects set out in Table C, in the Sub-Division in which they passed their previous Examination.

(32) The minimum pass number of marks is 500 out of 1,000.

(33) It will be open to Candidates to present themselves, irrespective of age, at any Examination held under Division IV.; but they will not be eligible for election to the Class of Fellows unless and until they have attained the age of 25 years.

(34) The Candidate will be required, as a preliminary, to fill up and forward a form* (to be obtained of the Secretary), setting forth his antecedents and professional experiences. This form must be forwarded to the Council for approval not later than the end of the month of October preceding the Examination for which the Candidate desires to enter his name. Should it be approved, the fact will be notified to the Candidate, who must, before the expiration of one month, forward the sum of Three Guineas as an Examination Fee. This sum will be placed to his credit if and when enrolled as a Fellow of the Institution, provided that not more than five years elapse between his passing the Examination and his enrolment as a Fellow of the Institution.

(35) Candidates successful in passing this Examination will, when enrolled as Fellows, receive an Examination Certificate, and will be distinguished by an asterisk prefixed to their names in the List of Members.

* The Candidate will be required to produce a Certificate (on a form to be obtained of the Secretary) from the Surveyor in whose office he is or has been employed, stating the capacity in which he is or has been engaged, and the time so employed, and must otherwise satisfy the Council that his practical attainments and professional experience are such as to render him eligible as a Candidate for the Class of Fellows.

TABLE C.]

DIVISION IV.*

EXAMINATION (FOR QUALIFIED PROFESSIONAL ASSOCIATES) FOR THE CLASS OF FELLOWS.

Sub-Division I.—Chiefly Land Agency.	Sub-Division II.—Chiefly Valuation.	Sub-Division III.—Chiefly Building.		
10 Nature & Incidence of Local & other Taxation. 11 Botany (of Grasses). 12 Agricultural Chemistry. (Parts 1, 2, 3, 4, and 5 of Syllabus.) 13 Principles and Practice of Valuation (see Syllabus of 1892). 14 Law of Arbitration, 15 Law of Vendors and Purchasers, 16 Agricultural Law, Report.†	10 Timber Valuing and Measuring. 11 Nature and Incidence of Local and other Taxation. 12 Sanitary Science as applied to Buildings. 13 Principles and Practice of Valuation (see Syllabus of 1892). 14 Law of Arbitration, 15 Land Clauses Acts, 16 Law of Vendors and Purchasers, Report.† Elements of; bearing on the Practice of Land Va- luation. }	10 Quantities (Fellowship Papers). 11 Sanitary Science as applied to Buildings. 12 The Building and Sanitary Acts.† 13 Principles and Practice of Valuation (see Syllabus of 1892). 14 Law of Arbitration.† 15 Mechanics (Law of Forces). 16 Construction of Iron and Timber Roofs. Report.†		
NOTE.—A Syllabus showing the approximate range of each subject can be obtained on application price 1s. 6d. * Candidates in Division IV. must have previously passed the Examination in Division II. or Division III. † A Report on a Special Subject appropriate to his Sub-Division will be required of each Candidate in Division IV.				
SCIENTIFIC AND SPECIAL SUBJECTS. (TWO OF THE FOLLOWING SUBJECTS MUST BE TAKEN BY EACH CANDIDATE.) <table><tr><td> Algebra (by Candidates in Sub-Divisions I. & III. only). Animal Physiology (by Candidates in Sub-Division I. only). Development of Building Estates (for Candidates in Sub-Division II. only). Enfranchisement of Copyholds (by Candidates in Sub-Division I. only). </td><td> Hydrostatics (Elements of). Metropolitan Buildings Acts. Principles of Parochial Assessment. Road Making. Sanitary Science (by Candidates in Sub-Division I. only). </td></tr></table>			Algebra (by Candidates in Sub-Divisions I. & III. only). Animal Physiology (by Candidates in Sub-Division I. only). Development of Building Estates (for Candidates in Sub-Division II. only). Enfranchisement of Copyholds (by Candidates in Sub-Division I. only).	Hydrostatics (Elements of). Metropolitan Buildings Acts. Principles of Parochial Assessment. Road Making. Sanitary Science (by Candidates in Sub-Division I. only).
Algebra (by Candidates in Sub-Divisions I. & III. only). Animal Physiology (by Candidates in Sub-Division I. only). Development of Building Estates (for Candidates in Sub-Division II. only). Enfranchisement of Copyholds (by Candidates in Sub-Division I. only).	Hydrostatics (Elements of). Metropolitan Buildings Acts. Principles of Parochial Assessment. Road Making. Sanitary Science (by Candidates in Sub-Division I. only).			

† Elements of; as affecting the Construction and Survey of Buildings and the Management of House Property.

* DIVISION V.

(As revived and modified by the Council, April 1892†).

DIRECT EXAMINATION FOR CANDIDATES (OTHER THAN THOSE WHO HAVE PASSED THE EXAMINATION IN EITHER OF THE DIVISIONS II., III., & IV.), FOR THE CLASS OF FELLOWS.

(36) This Examination will be held (contemporaneously with the Examinations for the Class of Professional Associates), the following being the conditions of Candidature:—

(37) The Candidate (not necessarily a Member of the Institution) must be over 30 years of age at the date of the Examination; and

(38) Must have been in practice on his own account for not less than three years, *commencing at a date anterior to the 26th August, 1891*; and

(39) Will be required to obtain, for passing, 900 out of 1,500 maximum marks.

(40) The Candidate will be required, as a preliminary, to fill up and forward a form (to be obtained of the Secretary), setting forth his antecedents and professional experiences. This form must be subscribed by at least two Fellows, or one Fellow and one Associate, of the Institution, and be submitted to the Council for approval not later than the end of the month of October preceding the Examination for which he desires to enter his name. Should it be approved, the fact will be notified to the Candidate, who must, before the expiration of one month, give notice of the Sub-Division and of the alternative subjects (see Table D) if in Sub-Division I. in which he elects to be examined, and forward the sum of Three Guineas as an Examination Fee. This sum will be placed to the credit of the Candidate if and when enrolled as a Fellow of the Institution, or, if already a Fellow, will be placed to his credit as a year's subscription.

(41) Candidates successful in passing this Examination will, when enrolled as Fellows, be distinguished by an asterisk prefixed to their names in the List of Members.

† This Examination has been revived and modified to meet the case of Candidates of mature years who have neglected to join the Institution under the old practice qualification and who cannot spare the time to pass both the Associateship and the Fellowship Examinations, or an Examination of such length as the former Examination in Division V. It is hoped that this Examination may be compressed within 2½ days.

* It will be open to an existing Fellow to present himself for Examination in this Division, providing his qualifications fall within the conditions of Rules 37 and 38 above.

TABLE D.]

DIVISION V.[†]

(As revised and modified by the Council, April 1892).

EXAMINATION FOR CANDIDATES (OTHER THAN THOSE WHO HAVE PASSED THE EXAMINATION IN DIVISIONS II., III., AND IV.) FOR THE CLASS OF FELLOWS,

SUB-DIVISION I.—Chiefly Land Agency.		SUB-DIVISION II.—Chiefly Valuation.		SUB-DIVISION III.—Chiefly Building.	
1	Law of Landlord and Tenant (Elements of).	1	Law of Landlord and Tenant (Elements of).	1	Bills of Quantities (Fellowship Papers).
2	Agriculture (and Customs of Country).	2	Law of Fixtures, Dilapidations, Easements, and Riparian Rights.	2	Constructive and Working Drawings.
3	Construction and Arrangement of Farm Homesteads.	3	Enfranchisement of Copyholds.	3	Law of Fixtures, Dilapidations, Easements, and Light and Air.
4 [†]	Forestry or Timber Measuring.	4	Timber Valuing and Measuring.	4	Road Making.
5 [†]	Land Drainage.	5	Sanitary Science as applied to Buildings.	5	Sanitary Science as applied to Buildings.
6 [†]	Geology and Composition of Soils, or Agricultural Chemistry (Parts 1, 2, 3, 4, and 5 of Syllabus).	6	Principles and Practice of Valuation.	6	Principles and Practice of Valuation.
7	Principles and Practice of Valuation.	7	Lands Clauses Acts	7	Report.*
8	Report.*	8	Development of Building Estates (New Subject).		
		9	Report.*		

* A Report on a Special Subject appropriate to his Sub-Division will be required of each Candidate in this Division.

† See Rule No. 40.

A Syllabus showing the proximate range of each Subject can be obtained on application, price 1s. 6d

† See foot-note, page 657.

Being a general key to the Professional Examinations (Divisions II., III., IV., and V.)

DIVISION II.—The Students' Proficiency Examination, qualifying for the Class of Professional Associates.

DIVISION III.—The Qualifying Examination for Candidates (other than Students) for the Professional Associateship.

DIVISION IV.—Qualifying for the Fellowship Professional Associates who have previously passed the Examination in Division II. or Division III.

DIVISION V.—Qualifying others than Professional Associates for the Fellowship.

**** SCIENTIFIC AND SPECIAL SUBJECTS** (*Applying to Candidates in Division IV. only*).

(TWO OF THE FOLLOWING SUBJECTS MUST BE TAKEN BY EACH CANDIDATE.)

* A Report on a Special Subject appropriate to his Sub-Division will be required of each Candidate in Divisions IV. and V.

NOTE.—A Syllabus showing the approximate range of each subject can be obtained on application. Price One Shilling and Sixpence.

FOR THE INFORMATION OF INTENDING
CANDIDATES.

*Extract from the Annual Report of the Council, relative to
the Examinations of 1893.*

* * * * * While it is undeniable that the system of Examination has now rooted itself deeply in every department of the profession, it is not without a measure of dissatisfaction that the Council observe the want of adequate preparation in practical subjects exhibited by a considerable number of the unsuccessful Candidates. This is indicated by the smaller percentage of passes this year, and it is hoped that future Candidates will draw the very plain inference that mere bookwork without sufficient knowledge of principles and practice will not avail them in their efforts to obtain the distinction of Membership, and the narrow margin by which the majority of the successful Candidates passed showed that this remark is of general application.



[EDITION OF MAY 1892.]

SPECIAL-CERTIFICATE EXAMINATIONS

(FOR MEMBERS)

IN

(1) FORESTRY; (2) SANITARY SCIENCE;

(3) LAND SURVEYING AND LEVELLING.

RULES, SYLLABUS, AND EXAMPLE
PAPERS.

Note.

The origin and objects of these Special Examinations will appear from the following extracts from a recent Report of the Professional Education Committee :—*

- (1) "The Government take power, in the Board of
 "Agriculture Act, to aid any system of lectures
 "or instruction connected with Agriculture or
 "Forestry, and further to *inspect and report on*
 "any Examination in Agriculture or Forestry.
 "Forestry being peculiarly a Land - Agents'
 "question, and the Institution being identified
 "with it in a marked manner in the evidence
 "of several witnesses before the Select Com-
 "mittee, as well as in the Report itself, it is
 "desirable, in view of the introduction of a
 "system of Government Inspection, to specialise
 "the subject, and to issue a Forestry Certifi-
 "cate to any of the Members of the Institution
 "who may pass the Special Examination in the
 "subject." * * * * *
- (2) "The subject of Sanitary Science should also be
 "specialised. It is distinctly a branch of a
 "Surveyor's practice, and a Certificate, as the
 "result of passing a Special Examination in
 "this subject would be valued by the younger
 "Members, and would be of assistance to them
 "in obtaining public appointments, which are
 "frequently limited to those who hold a Sani-
 "tary Science Certificate." * * *
- (3) "The subject of Land Surveying and Levelling
 "might also be specialised for the purposes of
 "a higher Examination, Scientific Surveying
 "(judging from the difficulty of obtaining
 "skilled men for work both at home and
 "abroad) threatening to become a lost art."

* These Special Examinations are wholly independent of the Examinations in the same subjects forming part of the ordinary Qualifying Examinations.

SPECIAL-CERTIFICATE EXAMINATIONS

OF

THE SURVEYORS' INSTITUTION.

(FOR MEMBERS ONLY.)

(1) FORESTRY.*

RULES AND REGULATIONS.

(1) **DATE.**—The Examination will be held in the month of June of each year (provided a sufficient number of Candidates present themselves), concurrently with the Special Examinations in Sanitary Science and in Surveying and Levelling.

(2) **ELIGIBILITY.**—Candidates must be Professional Members of The Surveyors' Institution.

(3) **SCOPE OF THE EXAMINATION.—INDOOR WORK.**—The Examination will consist of written papers, dealing with some or all of the subjects comprised in the Syllabus of the Special Examination in Forestry, a short essay on some important point of practice, and a *viva voce* examination to include the identification of specimens of various timbers, seeds, foliage, twigs, and manifestations of disease.

(4) **OUTDOOR WORK.**—There will also be a *viva voce* Examination in the woods, in timber valuing and measuring, the selection of trees and mode of felling, fencing, and other points of practice and forest management, at the discretion of the Examiners.

(5) **FORM OF APPLICATION.**—The Candidate will be required, as a preliminary, to fill up a form of application, to be obtained of the Secretary, setting forth his Professional experiences in relation to the subjects included in the Examination, and to forward it to the Council not later

* For Example Papers see pp. 672-675.

than the 20th day of the month of April preceding the Examination.

(6) **EXAMINATION FEE.**—The Candidate must, before the expiration of the same month, forward the sum of three guineas as an examination fee. Should the Candidate fail to pass the Examination, or the indoor branch of it, if taken separately (*see Rule 9*), he will be allowed to present himself a second time, at any one of the next three ensuing Special Examinations in the subject, without the payment of a further examination fee.

(7) Candidates will be required to defray their own personal and travelling expenses in connection with the Outdoor Examination.

(8) **MARKS.**—The maximum marks obtainable will be 1,000, apportioned 800 to the indoor and 200 to the outdoor work. The minimum pass-marks will be 500, of which at least 400 must be obtained in the indoor work and not less than 100 in the outdoor work.

(9) It will be open to a Candidate to take the indoor and the outdoor work in the same Examination, or to come up for the indoor work alone and, without paying any further examination fee, defer the Outdoor Examination for a period not exceeding five years from the date of passing in the indoor work, providing he specifies on his form of application which of the two courses he elects to take.

(10) **GRANT OF CERTIFICATE.**—A Certificate will be granted to each Candidate, when he has passed both the indoor and outdoor branches, indicating that he has passed the Examination.

SYLLABUS OF FORESTRY EXAMINATION.

PHYSIOLOGY AND ANATOMY.—General. The botanical discrimination of the chief species of trees ordinarily grown. Native and acclimatised trees. Functions of roots, stems, and leaves. Structure. Growth. Effect of light, shade, and meteorological changes. Forest insects and fungi. Diseases of trees—effect of on growth and value.

SEEDS.—Collecting and testing seeds of conifers and hardwoods. Preparation of seeds for sowing. Sowing and after treatment. Identification.

PROPAGATION.—Layering, slipping, and grafting. Natural reproduction. Comparative advantages of planting and of natural reproduction.

SITE, ASPECT, CLIMATE, SITUATION.—Choice of site and soil. Effects of climate, aspect, and situation on growth and on quality of timber. Protection from fire, wind and tempest, frost, insects. Effects of woodlands upon climate.

SOIL.—Soils suitable for trees. Trees suitable for various soils.

PREPARATION OF SITE.—Laying out, trenching, draining, clearing of natural herbage, and other preparation of land to be planted with trees.

FENCING.—Live and dead, metal, and other fences. Plants suitable for hedges, preparation of bed, planting and after treatment.

SELECTION OF TREES.—For timber. For ornament. Pure and mixed woodlands; advantages and disadvantages of. Study of individual trees. Their adaptability to certain soils, aspects, uses, and ornament. Varieties marketable in different districts.

FOREST NURSERIES.—Arrangement and management. Laying out and preparation of soil for seeds and seedlings.

PLANTING.—Planting operations. Pit and notch principles. Cost of planting. Protection of young trees. Transplanting of large trees. Ornamental planting. Reviving and improving drooping specimens. Improvement of existing woodlands. Effects of isolation and crowding on growth and value.

MANAGEMENT.—Pruning, lightening, and thinning of established woodlands and plantations. Practical treatment in cases of injury or disease. Period of maturity in different species of timber trees. Felling and barking. Preparation for sale. Carriage and conversion of timber. Seasoning. Methods of increasing durability of timber.

FOREST TOOLS.—Generally.

MEASUREMENT AND VALUATION.—Of growing and felled timber, for sale or succession duty. Other forest produce, valuation of. Annual increment as regards cubical contents and value. Allowances for defects. Use of slide rule. Mensuration of areas and solids as applicable to Forestry.

USES OF TIMBER.—Commercial uses to which the different kinds of timber are applied.

UNDERWOOD AND COPPICE.—Management, valuation, and sale of. Treatment of thickets. Treatment of existing areas, improvement and planting up of same. Planting new areas—after treatment.

OSIER BEDS.—Planting, varieties, and treatment.

ROADS.—Formation and maintenance of forest roads.

BY-PRODUCTS.—Bark, charcoal, litter, &c. Preparation and uses.

LAW.—Rating of woodlands. Laws relating to timber trees, timberlike trees, and coppices. Limited rights of tenant for life in timber. Trees on copyholds, wastes, and commons. Common of estovers, &c.

Text Books.—Hough's "Elements of Forestry" (Crosby Lockwood, 7, Stationers' Hall Court). Bagneris' "Elements of Silviculture" (translated by Fernandez and Smythias) (Rider, 14, Bartholomew Close). Brown's "Forester" (Blackwood, Edinburgh). Curtis' "Practical Forestry" (Land Agents' Record Office). Marshall Ward's "Timber, and some of its Diseases" (Macmillan). Miss Ormerod's "Manual of Injurious Insects," Pt. II. (Swann Sonnenschein). A. J. Burrows, F.S.I., on Coppice wood, planting, bark-stripping, and drainage, in "Journal of Forestry," Vol. I. "Tree Seeds and Seedbeds," do., Vol. II. J. C. King's "Technics of Forestry," do., Vols. I. and II. G. S. Boulger's "Cultural First Principles," do., do. Curtis' "Estate Management," Forestry section, (*Field Office*). Selby's "British Forest Trees," "The Conversion of English Timber" (Rider). A. J. Burrows's "Science for Foresters" (Rider). A. Des Cars, "Tree Pruning" (translated by C. S. Sargent) (Rider). Craig's "Rights and Liabilities in Timber." Dixon's "Law of the Farm" (Stevens). Surveyors' Institution "Transactions," Vol. V., Pt. IX.; Vol. VI., Pt. VII.; Vol. VI., Pt. VIII.; and Vol. IX., Pt. II.

PLACES OF STUDY.—*The Natural History Branch of the British Museum in Cromwell Road, South Kensington, No. 3 Museum at Kew, and the Arboretum at Kew are among the more convenient places of study.*

NOTE.—*The authorities at Kew issue special admission passes to students.*

(2) SANITARY SCIENCE.*

RULES AND REGULATIONS.

(1) DATE.—The Examination will be held in the month of June of each year (provided a sufficient number of Candidates present themselves), concurrently with the Special Examinations in Forestry and in Surveying and Levelling.

(2) ELIGIBILITY. — Candidates must be Professional Members of The Surveyors' Institution.

(3) SCOPE OF THE EXAMINATION.—The Examination will consist of written papers dealing with some or all of the subjects comprised in the Syllabus of the Special Examination in Sanitary Science; of drawing work and, should the Examiners see fit, reports on selected examples of sound and of defective sanitary arrangements, with oral explanations.

(4) FORM OF APPLICATION.—The Candidate will be required, as a preliminary, to fill up a form of application, to be obtained of the Secretary, setting forth his Professional experiences in relation to the subjects included in this Examination, and to forward it to the Council not later than the 20th day of the month of April preceding the Examination, accompanied by working drawings and specification for the water supply, drainage, and sanitary appliances for a public building or a large private house.

(5) EXAMINATION FEE.—The Candidate must, before the expiration of the same month, forward the sum of three guineas as an examination fee. Should the Candidate fail to pass the Examination, he will be allowed to present himself a second time at either one of the three next succeeding

* For Example Papers see pp. 675-679.

Special Examinations in Sanitary Science, without the payment of a further examination fee.

(6) MARKS.—The maximum marks obtainable will be 1,000, and the minimum pass-marks 500.

(7) Additional marks, *not exceeding 15 per cent. of the minimum pass-marks* may be awarded in respect of drawings and full particulars of any practical work in house sanitation, actually carried out under the personal superintendence of the Candidate, the facts being authenticated, to the satisfaction of the Council, under the hand of the Candidate, with such further corroboration (if any) as the Council may require.

(8) A Candidate wishing to avail himself of the additional marks for practical work referred to in the previous paragraph, must specify, on his form of application, the nature, date, and situation of the work in respect of which additional marks are sought.

(9) GRANT OF CERTIFICATE.—Each successful Candidate will receive a Special Certificate indicating that he has passed the Examination.

SYLLABUS OF SANITARY SCIENCE EXAMINATION.

A. SANITARY ARRANGEMENT AND VENTILATION OF BUILDINGS :—

- (a) Houses in towns, with water supply and main drainage.
- (b) ——— in the country, with water supply and no outfall.
- (c) ——— in the country, with no water supply and no outfall.
- (d) Public buildings, factories, stations, dormitories, hospitals, schools, &c., and the extent of the sanitary accommodation necessary.
- (e) Practical details of plumbers' work, pipes, joints, and fittings. Selection of materials, &c.

- (f) The sources of failure in executed works.
 - (g) The testing of joints and fittings.
 - (h) Cubic space for rooms and buildings, and various forms of inlet and outlet, &c.
- B. SURFACE WATER AND RAIN WATER DISPOSAL—storage and separation from sewage.
- C. COMPOSITION OF SEWER GAS. TESTS FOR DITTO. REMEDIES AGAINST DITTO. THE LAW OF DIFFUSION OF GASES.
- D. WATER SUPPLY:—
- (a) For drinking purposes.
 - (b) For household uses—
 - (1) At high pressure } from public
 - (2) At low pressure } main.
 - (3) From private sources; such as springs, rain, deep well, river, &c.
 - (4) Effects of storage in cisterns and of frost.
- Sources of pollution, tests for.
- ” ” remedies against.
- E. REMODELLING OLD DRAINAGE SYSTEMS.
- F. DRAINAGE OF FARM HOMESTEADS AND FARMHOUSES.
- G. MAIN DRAINS FOR BUILDING ESTATES:—
- Details as to sizes and materials under various conditions.
- H. DISPOSAL OF SEWAGE AND REFUSE, &c.
- I. LAWS RELATING TO SANITATION:—
- Liability of owner and occupier : of Local Authorities and of adjoining owners.

Text Books—Baldwin Latham's "Sanitary Engineering" (Spon, 125, Strand), J. Bailey Denton's "Sanitary Engineering," "Handbook of House Sanitation" (Spon, 125, Strand), Sir Douglas Galton's "Healthy Dwellings" (Clarendon Press), J. C. Baylis' "House Drainage and Water Service" (Spon, 125, Strand), C. Slagg's "Sanitary Work" (Crosby Lockwood, 7, Stationers' Hall Court).

(3) SURVEYING AND LEVELLING.*

RULES AND REGULATIONS.

(1) DATE.—The Examination will be held in the month of June of each year (provided a sufficient number of Candidates present themselves), concurrently with the Special Examinations in Forestry and in Sanitary Science.

(2) ELIGIBILITY.—Candidates must be Professional Members of The Surveyors' Institution.

(3) SCOPE OF EXAMINATION.—The Examination will consist of written papers dealing with some or all of the subjects comprised in the Syllabus of the Special Examination in Surveying and Levelling, and of drawing work, and field work under the eye of the Examiner.

(4) FORM OF APPLICATION.—The Candidate will be required, as a preliminary, to fill up a form of application, to be obtained of the Secretary, setting forth his Professional experiences in relation to the subjects included in this Examination, and to forward it to the Council not later than the 20th day of the month of April preceding the Examination.

(5) EXAMINATION FEE.—The Candidate must, before the expiration of the same month, forward the sum of three guineas as an examination fee.

(6) Should the Candidate fail to pass the Examination, he will be allowed to present himself a second time, at either one of the three next succeeding Special Examinations in Surveying and Levelling, without the payment of a further examination fee.

(7) MARKS.—The maximum marks obtainable will be 1,000, apportioned 600 to the indoor and 400 to the outdoor work. The minimum pass-marks will be 500, of which at least 300 must be obtained in the indoor and not less than 200 in the outdoor work.

(8) Additional marks *not exceeding 10 per cent. of the minimum pass-marks* may be awarded in respect of any practical work in Surveying and Levelling personally carried out by the Candidate, the facts being authenticated, to the satisfaction of the Council, under the hand of the

* No Examination has yet been held in this subject.

Candidate, with such further corroboration (if any) as the Council may require.

(9) A Candidate wishing to avail himself of the additional marks for practical work must specify, on his form of application, the nature, date, and extent of the work in respect of which additional marks are sought.

(10) GRANT OF CERTIFICATE.—Each successful Candidate will receive a Special Certificate indicating that he has passed the Examination.

SYLLABUS OF SURVEYING AND LEVELLING EXAMINATION.

SURVEYING.—General principles. Surveying with chain alone. Construction of lines. Surveying across obstacles. Traversing with chain alone. Traversing with angular instruments. Plotting by latitude and departure. Plane table and telemeter surveying. Staking out centre lines of railways. Tunnels on curve or straight. Town surveying. General use and adjustment of surveying instruments. Trigonometrical surveying. Plotting, copying, enlarging, and reducing maps. Large scale surveys for special works (such as bridges, stations, &c.). Setting out side widths. Computing land quantities. Route and expeditionary surveying. Harbour, coast, river, and general marine surveying. Latitudes and longitudes. Practical surveying in the field.

LEVELLING.—General principles. Adjustment of instruments. Trial and check levelling and making of cross-sections. Levelling with angular instruments. Levelling with barometer, hypsometer, &c. Grading sections. Contouring and preparation of sections generally. Computing earthwork quantities. Practical work in the field.

Text Books.—Baker's "Land Surveying and Levelling" (Weale's Series), Murrett's "Land and Engineering Surveying," 4th Edition (Spon, 125, Strand), Heather and Walmisley's Treatise on "Mathematical Instruments," Edition 1888, G. W. Usill's "Practical Surveying" (Crosby Lockwood, 7, Stationers' Hall Court), Frome's "Surveying," enlarged by Captain Warren (Crosby Lockwood, 7, Stationers' Hall Court).

EXAMPLE PAPERS.

FORESTRY.

PRACTICAL FORESTRY.

Time allowed—Three hours.

1. What trees—conifers and hardwoods—would you select if called upon to plant sands near the coast, sandy loams, loams, drained or porous clays, peat or bog land, and poor hill land? What trees in each case would you select as the standard crop, and what nurses would you choose?

2. In the case of wet clay land what method of drainage would you adopt? Where would you lay off your main drain, and in what direction would you lay off your minor drains? What depth would you take for your mains, and what slope (batter) would you consider sufficient?

3. In the preparation of a forest nursery what site and what soil would you select if you had a choice? and what steps would you take to render an unsuitable soil fit for the purpose?

4. State briefly the method of propagation of the larch, and the nursery treatment of the same up to time of final planting.

5. When would you commence to thin a mixed plantation? and what would be your chief object in thinning?

6. What do you understand by natural reproduction of forest trees? and what common forest trees (conifers and hardwoods) may be profitably reproduced in this way?

7. When would you gather, how prepare, and when sow the following seeds:—the hawthorn, the sycamore, the ash, the wych elm, the oak, and the beech?

8. If necessary to lop off a large limb where would you cut it? and in cutting back or shortening a branch what plan would you adopt?

9. Give a sketch of the forest and nursery work from Oct. 1st to April 30th.

10. What are the chief uses of the following timbers:—oak, elm, ash, sycamore, alder, poplar, willow, larch, sweet-

chestnut, beech, and hornbeam, and the value per foot of each (quarter girt measure) standing?

11. When oak timber and coppice grow together what would guide you in the thinning of the trees?

12. State what course you would adopt in the planting of a quickset hedge, *i.e.*, the preparation of the bed, the choice of plants, method of planting, protection of quick when planted, and give an estimate of the cost in detail and the after-treatment. Also, your treatment of a neglected and over-grown hedge with a weak bottom.

13. In measuring standing timber what allowance would you make for bark in the case of oak, elm, and ash growing in exposed places?

14. Show by diagrams the leaf and seeds of the peduncled oak, the sessile flowered oak, and the Turkey oak. State also what soils are specially adapted to each.

SCIENCE PAPER.

Time allowed—Three hours.

1. How would you distinguish growing trees of *Pinus*, *Cedrus*, *Picea*, and *Abies*?

2. Describe the botanical characters of the ash (*Fraxinus excelsior*).

3. To what natural order and genus does the following belong:—

A tree with smooth bark, tough bast, oblique leaves, and pendulous clusters of three or four flowers on a peduncle, which is adherent to a leafy yellowish green bract?

4. What characteristics render the plane and the birch particularly suitable for town planting?

5. State fully the distinctive characters of the plane (*Platanus*) and the sycamore (*Acer Pseudo-platanus*).

6. Describe the typical structure and functions of a leaf in deciduous broad-leaved trees.

7. What are the physiological requisites in germination, and how are these supplied in our practical management of seed-beds?

8. Discuss the effects of soil upon timber.

9. What are the effects of a forest fire upon the soil?

10. Describe the structure and germination of an acorn.

11. Supposing the annual rings to be of equal width, what would be the proportionate rate of annual gain in the area of the transverse section of a tree in a series of years?

12. How do the annual rings in wood differ in the degree of shrinkage in seasoning, and how does this affect round, squared, and plank timber respectively?

ESSAY.

Time allowed—Three hours.

Subject (for 1890), The Diseases and Causes of Premature Decay of Forest Trees.

ORAL EXAMINATION.

The identification of a large number of seeds, seedlings, twigs, leaves, thin sections, slabs, and cross sections of various descriptions of sawn timber.

THE LAWS RELATING TO TREES, RATING OF WOODLANDS, &c.

Time allowed—Two hours

1. What trees are timber?
2. What are the rights in timber and other trees as between lessor and lessee?
3. What are the rights in timber as between a tenant for life and the remainderman?
4. What are the rights in timber as between the lord of the manor and the copyholders?
5. What are the rights in timber as between the lord of the manor and the commoners on waste or common lands, and what is the right of common of estovers?
6. Define the terms "legal waste" and "equitable waste" as applied to timber and other trees, and also give some definition of "voluntary waste" and "permissive waste."
7. How is woodland rated, and what are "saleable underwoods"?
8. When an estate passes by will, what duty is payable by the successor in respect of timber?

EXAMINATION IN THE WOODS.

Range of Examination of 1890.

Nomenclature. Methods of timber measuring and computation of contents. Timber valuing. Soundness and quality. Nature of defects. Identification of two years growths and growths from old stools. Forest botany. Treatment and management.

SANITARY SCIENCE.

GENERAL PAPER.

*(Section A of Syllabus.)**Time allowed—One-and-a-half hours.*

Describe in detail the objects to be sought, the precautions to be taken, and the errors to be avoided in designing the sanitary arrangements of any dwelling—the water supply being constant.

SANITARY ARRANGEMENT OF BUILDINGS.

*(Sub-Sections selected for 1890, "a" and "g.")**Time allowed—Two hours.*

SECTION A.

SUB-SECTION a.

Describe and show, by plans, sections (and sketches as far as possible), the best sanitary arrangement for a house in a London street with two w.c.'s in the basement, one being for men, one w.c. with lavatory on the ground floor at the back, two w.c.'s on the upper floors, also a bath room with fitted bath, and a housemaid's closet; a sink in the butler's pantry in basement, also a sink in scullery.

The rain-water is taken from the roofs back and front.
The water supply is constant.

State (on plan as far as possible) the materials you would employ, with size of pipes, &c.

SUB-SECTION *g*.

Describe methods of testing joints and fittings, pointing out the most approved.

SANITARY VENTILATION.

(Section *C* of Syllabus.)

Time allowed—Three-and-a-half hours.

1. State the principles which govern the movements of air through pipes, and give a formula for determining the same for purposes of ventilation.

2. A large reception room has to be warmed and ventilated so as to meet the requirements of health and comfort in both winter and summer, and either when crowded or not. How can this be accomplished?

3. Show by a sketch plan and section the most suitable arrangement for a hospital ward, with the positions of beds and furniture. State the floor space and cubic space that should be allowed for each bed.

4. Describe in detail the mode of ventilation that should be adopted in questions 2 and 3, and give sketches showing the forms of inlets and outlets.

5. What causes the production of sewer gas in drains and sewers, and state how it can be prevented, or remedied if it exists?

6. Explain, in detail, the various ways of testing house drains, and of discovering defects and leaks.

WATER SUPPLY.

(Section *D* of Syllabus.)

Time allowed—Three-and-a-half hours.

1. What geological formations are water bearing? State the conditions under which they are relied on as sources of water supply.

2. A "gathering ground" has to be selected for the supply of domestic water to a town of 20,000 inhabitants. Describe the main conditions that have to be fulfilled as to area, rainfall, and storage.

3. Specify the difference between waters from deep springs and from shallow wells in some geological formations.

4. What are the chief characteristics of hard and of soft water? How can hard water be artificially softened other than by boiling?

5. Describe the usual chemical tests for organic and mineral impurities in water.

6. How can a water supply be contaminated both in the main and in the house on either the constant or intermittent system?

7. State the various self-purifying influences that are at work in a running stream, by which organic impurities are lessened.

8. Sketch a filter bed for purifying the water supply of a town, and state the volume that can be passed through it with efficient filtration.

9. Describe some arrangements by which drinking water can be filtered in a house.

REMODELLING OLD DRAINAGE SYSTEMS.

(Section E of Syllabus.)

NOTE.—No Papers were set in Sections F and G in the Examination of 1890.

Time allowed.—Three-and-a-half hours.

The drains of a country mansion were laid about 20 years ago, as shown by the accompanying plan.* Describe the principal defects, and what you would advise to remodel the system, making it in accordance with the requirements of the present day. Mark the remodelling in red on the plan as far as possible, altering the position of fittings, if necessary. The water supply is plentiful from a high level.

* A large scale plan was issued with this Paper to each Candidate.

SURFACE WATER AND RAINFALL DISPOSAL, DISPOSAL OF SEWAGE, REFUSE, &c.

(*Sections B and H of Syllabus.*)

Time allowed—Three-and-a-half hours.

1. What volume of sewage and rainfall would have to be dealt with (taking the average rainfall at 36 inches) in sewerage a town covering an area of four square miles, where the "separate system" is to be carried out?

2. Make sketches of apparatus for destroying house and town refuse.

3. How can sewage be best disposed of and purified by filtration on a small area of land having a foot of alluvial soil overlying a porous gravel subsoil?

4. What volume of sewage can be purified on land of various compositions with satisfactory sanitary and agricultural results?

5. Describe in detail two of the best methods of dealing with sewage by chemical treatment.

6. A cesspool has to be provided for the reception of the refuse of a mansion, with stables, offices, &c. Show a plan and section of the connections between the drains and the cesspool, providing for ventilation, and for the drains being self-cleansing.

7. In discharging sewage into the sea or tidal estuary, state the precautions that require to be observed.

8. Sketch in section a good artificial filter for sewage purification, and explain its action.

SANITARY LAW.

(*Section I of Syllabus.*)

Time allowed—Three-and-a-half hours.

1. Into what sanitary districts are England and Wales divided? Describe the local authorities responsible for the sanitary condition of such districts respectively.

2. How have the legislature distinguished "a drain" from "a sewer," and what is the statute in which such distinction is drawn? In answering this question, give the statutory definitions of "a drain" and "a sewer."

3. In whom does the law vest the property generally in sewers? What are the exceptions?

4. What powers have local authorities with reference to the sewerage and with reference to the draining of new streets within their districts?

5. By what means and to what extent are owners restricted in laying out their estates for the erection of, and in the erection of, buildings thereon:—(a) in the Metropolis; (b) in an urban district; (c) in a rural district?

6. What sanitary works does the law require to be executed in connection with the erection of a house?

7. A erects a house in an urban district, and B erects a house in a rural district. Under what obligation is each of them with regard to the disposal of the drainage of his house, and what are his rights in respect thereof:—

(a) If there is a sewer which the sanitary authority of the district are entitled to use in the proximity of such house? (b) If there is no such sewer?

8. What are the rights of the owner of a house with respect to connecting his drains with the sewers of the local authority in whose district his house is situate (a) where such house is situate outside the Metropolis; (b) where such house is situate within the Metropolis?

9. Where premises are in such an insanitary condition as to be a nuisance, who is liable to abate the nuisance?

(a) If the nuisance arises from the want of, or defective construction of, any structural convenience?

(b) If the nuisance arises from any other cause?

What powers have the local authority of the district in which the premises are situate for enforcing the abatement of the nuisance in each of such cases?

10. A, the owner of certain houses for which a drain had been constructed, leading under a private road and thence into a stream on the lands of B, claimed a right to discharge the drainage from such houses upon such lands by means of the drain as an easement. The drainage of A's houses polluted the stream and caused a nuisance on B's land, though no nuisance was caused upon A's land: who was liable to abate the nuisance?

SURVEYING AND LEVELLING.

No Examination has yet been held in this subject.

LIST OF THOSE APPOINTED BY THE COUNCIL TO ACT AS EXAMINERS

(Honorary or otherwise)

AT THE

EXAMINATIONS OF 1893.

G. E. S. BOULGER, ESQ., F.L.S., F.G.S.	J. W. PENFOLD, ESQ., F.S.I., F.R.I.B.A.
G. J. BROWN, ESQ., F.S.I.	E. E. PINCHES, ESQ., M.A.
J. W. WILLIS BUND, ESQ. (<i>Barrister-at-Law</i>).	T. M. RICKMAN, ESQ., F.S.I., F.R.I.B.A.
E. J. CASTLE, ESQ., Q.C.	H. A. RIGG, ESQ. (<i>Barrister-at-Law</i>).
A. D. CLARKE, ESQ., F.S.I.	R. RICH, ESQ., F.S.I.
C. E. CURTIS, ESQ., F.S.I.	H. ROBINSON, ESQ., M.I.C.E., F.S.I.
T. A. DICKSON, ESQ., F.S.I.	J. C. ROGERS, ESQ., <i>Secretary</i> .
E. DOGGETT, ESQ.	A. L. RYDE, ESQ., F.S.I.
W. EVE, ESQ., F.S.I.	J. SHAW, ESQ., F.S.I.
DR W. FREAM, B.Sc., F.L.S.	E. SMYTH, ESQ., P.A.S.I., A.I.A.
G. M. FREEMAN, ESQ. (<i>Barrister-at-Law</i>).	A. R. STENNING, ESQ., F.S.I., F.R.I.B.A.
R. CUNNINGHAM GLEN, ESQ., LL.B. (<i>Barrister-at-Law</i>).	H. T. STEWARD, ESQ., F.S.I.
R. F. GRANTHAM, ESQ., M.I.C.E.	A. VERNON, ESQ., F.S.I.
E. B. IANSON, F.S.I., F.R.I.B.A.	D. WATNEY, ESQ., F.S.I.
G. H. LEANE, ESQ., F.S.I.	W. D. WATNEY, ESQ., F.S.I.
C. J. MANN, ESQ., F.S.I.	T. W. WHEELER, ESQ., M.A., Q.C.
GILBERT MURRAY, ESQ., F.S.I.	F. MEADOWS WHITE, ESQ., M.A., Q.C.
C. OAKLEY, ESQ., F.S.I.	



